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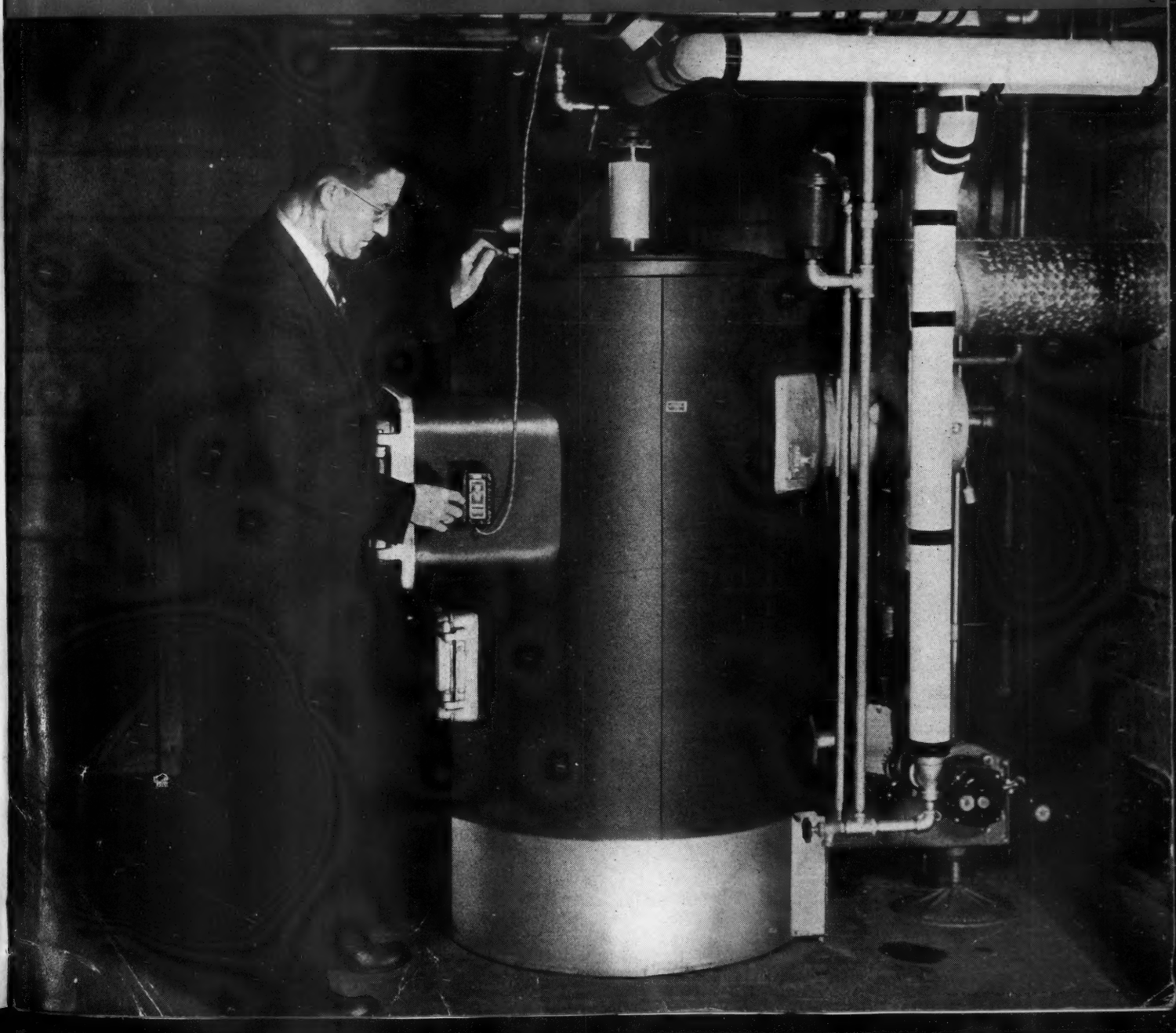
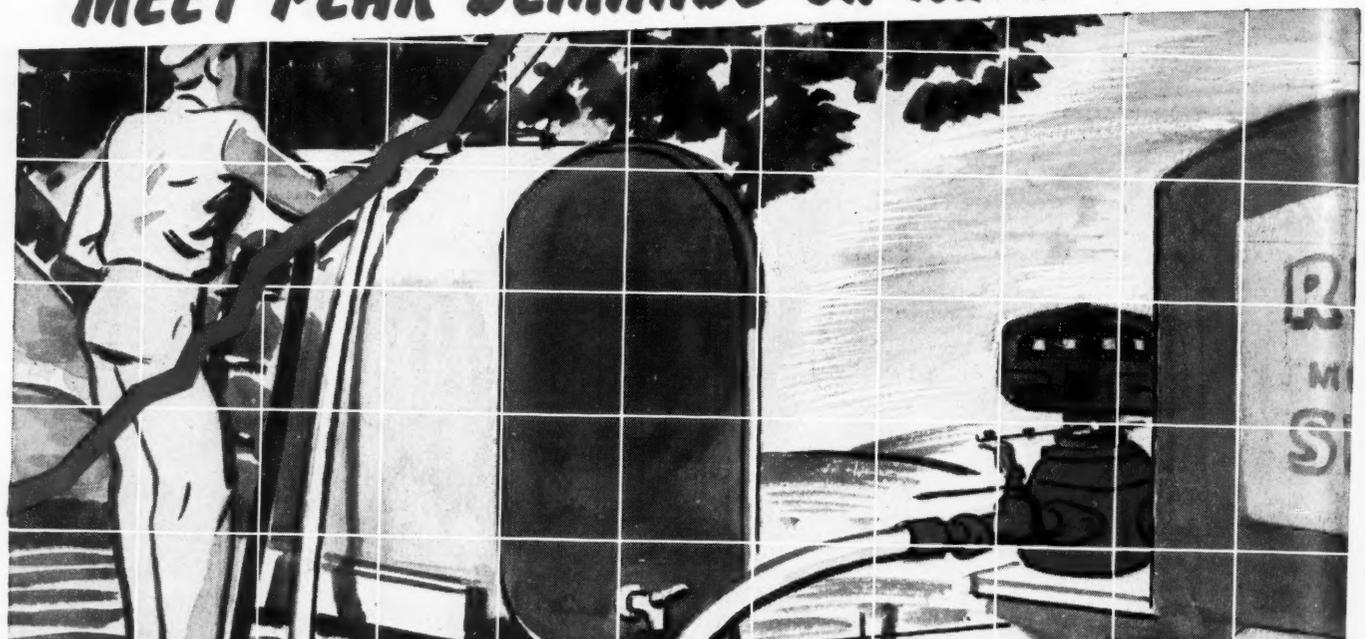


MEET PEAK DEMANDS on Rural Routes



-IN LESS TIME-with LESS Physical EFFORT

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

SINCE 1927

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-Install BRODIE METERS EQUIPPED WITH BRODIE QUANTROL

RURAL DELIVERIES become taxed to the limit when farm equipment starts working in the fields. And, unless you are equipped to meet the demand you lose business. Therefore, to serve more customers more gallonage—in less time, with less effort, requires fast, accurate *METER-HOSE* delivery rather than hand bucketing. In converting your tank trucks to this system, be sure to include Brodie Automatic Quantity Control. With Brodie Quantrol Meters you simply set the meter for the desired number of gallons to be delivered. When this point is reached, the meter shuts-off *automatically*—preventing spillage, losses and waste. *Write today for Bulletin 200.*

VOL. 4 NO. 11

fueloil & oil heat

MARCH

1946

Names in the News

Mathias F. Bernard will head the newly formed Sid Harvey of New Jersey, Inc., which will start business in Newark April 15. He is to be president and treasurer of the new company. Other officers are *Sid Harvey*, chairman, and *Lawrence Harvey*, vice-president and secretary. Bernard started with Sid Harvey, Inc., in 1936 and has held nearly every job in the organization, including that of branch manager of one of the Long Island branches.

T. M. Dailey of Philadelphia has been named field representative for Harvey-Whipple, Inc., Springfield, Mass. oilburner manufacturers. Dailey will cover Eastern Pennsylvania, Delaware, Maryland and D. C. Before coming to Harvey - Whipple, Dailey was connected with Curtiss-Wright Aircraft Corp. of Buffalo, N. Y. and has been active in the automotive and service field for many years.

Frank W. Potter has recently joined the Fluid Heat Division of the Anchor Post Fence Company, Baltimore, Md. Potter will cover the New England territory as field representative. He was formerly associated with the Petroleum Administration for War and the War Department.

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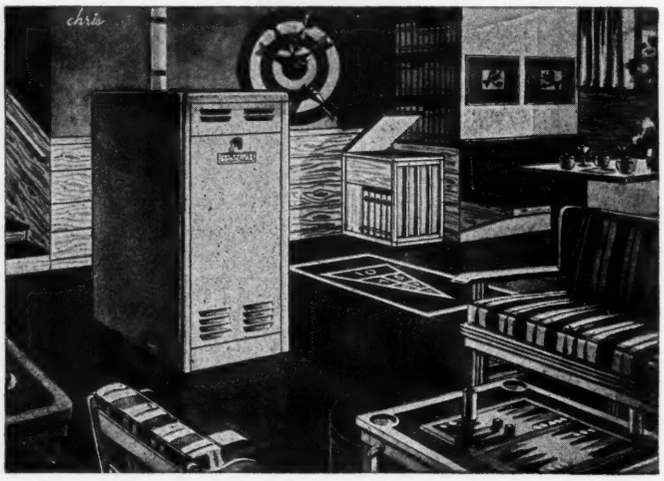
KOVEN WATERFILM BOILERS



for Economical Quick Heat

A heating unit must be dependable...provide lasting comfort...operate with economy and efficiency. The patented construction of KOVEN WATERFILM BOILERS incorporates all the newest scientific improvements... assuring quick, abundant heat, even room temperature and a plentiful supply of domestic hot water at all times. These fastest steaming boilers on the market are made for automatic firing with oil, stoker or gas.

Illustrated above is the De Luxe model in a finished basement. This smartly jacketed boiler, not only adds to the attractiveness of the room, but provides healthful comfort.

WATERFILM BOILERS are available in a variety of models suitable for large or small homes, apartment houses and industrial plants. Write today to KOVEN for more detailed information.

WATERFILM BOILERS, Inc.

154 OGDEN AVENUE, JERSEY CITY 7, N. J.

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EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE

C. C. Van Wagoner has been appointed service manager for Evans Products Co., Detroit, to develop an international program to instruct and train distributors in the operation and servicing of products of the Heating and Appliance Division. Prior to joining Evans Van Wagoner had 15 years experience in service departments of Montgomery Ward and Crowley Milner Co.

Alexis Doster, president of Torrington Mfg. Co., Torrington, Conn., and former head of the Accessory Division of Oil-Heat Institute, was married February 9 to Mrs. Katherine Howell Underhill at New York's Church of the Transfiguration.

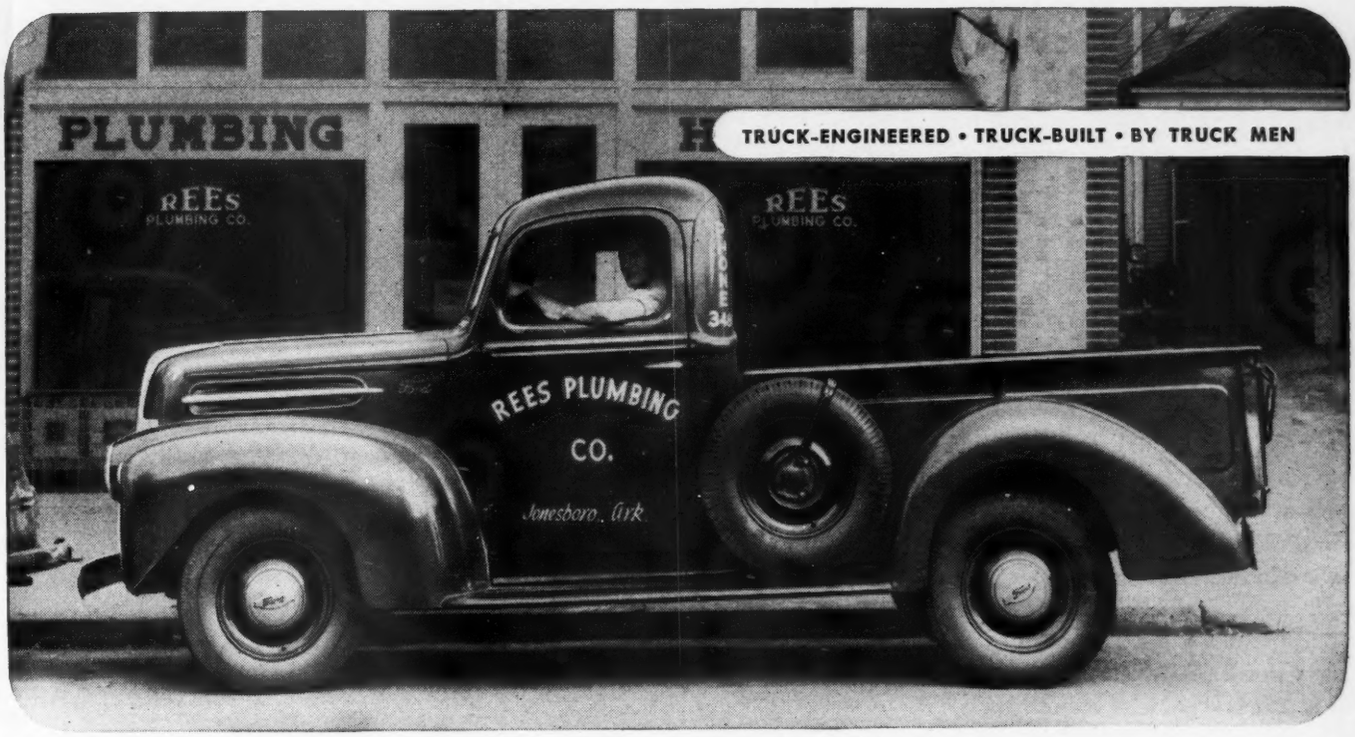
J. Avery Guyton has been named assistant division manager in charge of fuel-oil sales for the Atlanta Division of Gulf Oil Corp.

S. J. Dowling has been made a district representative for Oil-O-Matic in New York. From 1935 to his coming with Oil-O-Matic in 1945, Dowling was general manager for Public Service Engineering & Heating Co., Bronx County distributors of Socony fueloil and Delco Burners. Before entering the oilburner field he was associated with a New York building contractor.

William Hickstein, president of the Newark Boiler Regulator Co., Bloomfield, N. J., and one of the best known men in Eastern oilheating circles, died February 19 from an attack of pneumonia at the hospital in Bloomfield, aged 63.

Gwilym A. Price has been elected president of the Westinghouse Electric Corp., succeeding George H. Bucher, who has resigned from that office. Under a recent amendment of the Corporation's by-laws, Price, as president, will be the chief executive officer, a function formerly of the board chairman.

Better Trucks for YOUR Business!



"NEW FORD CUTS OUR OPERATING COSTS 10% . . . FINEST IN HISTORY!"

With so much of your most urgent work coming when weather is at its worst, the Ford Truck's famed reliability alone would be enough to justify the universal popularity of the Ford Pickup Truck among plumbing and heating men. But Mr. Harold R. Rees, of Jonesboro, Ark., heating equipment specialist, taking Ford reliability "for granted," brings up another Ford virtue of equal importance. He writes:

"The economy of our 1946 Ford Pick-up so far exceeds that of all the other trucks we have owned in the past twenty years, it has really amazed us. It has cut our servicing time and our operating costs at least 10 per cent per day. There are more Fords in our Future! You have our order for a Tonner with Express body."

Have you compared the specifications of the new Ford Trucks—the Light Duty Pickup and the Tonner, for instance—with other trucks of comparable cost and rating? Do so by all means! You'll see more reasons than ever why the sturdy Ford should be "the plumber's favorite!"

Ford

ADVANCED ENGINEERING IN NEW FORD TRUCKS

More Economy and Endurance
Easier Servicing

A STILL GREATER 100 HP V-8 ENGINE with NEW Ford steel-cored Silvaloy rod bearings, more enduring than ever in severe service • NEW aluminum alloy cam-ground 4-ring pistons for oil economy • BIGGER, more efficient oil pump and IMPROVED rear bearing oil seal • NEW longer-lived valve springs • NEW improvements in cooling • NEW efficiency in ignition • in carburetion • in lubrication • in ease and economy of servicing operations • And available in all truck chassis except C.O.E. units—the rugged, thrifty 90 HP FORD SIX-CYLINDER ENGINE, with many important advancements.

FORD CHASSIS ADVANTAGES: Easy accessibility for low-cost maintenance • Universal service facilities • Tough, forged front axles • Extra-sturdy rear axles with pinion straddle-mounted on 3 large roller bearings, ¾-floating type in light duty units, full-floating in all others • 3 axle ratios available (2 in 1-ton unit) • 2-speed axle available in heavy duty units at extra cost • Powerful hydraulic brakes, large drums, cast braking surfaces • Rugged 4-speed transmission with NEW internal reverse lock optional at extra cost on light duty units, standard on all others.

FORD TRUCKS

MORE FORD TRUCKS ON THE ROAD • ON MORE JOBS • FOR MORE GOOD REASONS

fuel oil & oil heat

Editorial Leaks

One of the better Eastern fueloil trade associations is currently conducting a campaign to get their members to stop paying commissions on fueloil sales to oilburner dealers. This particular association has done a lot of effective work for the good of the industry for a number of years, but in this instance we believe they are on the wrong track.

Such a large share of both burners and oil are sold by combination companies, selling both, that this drive is obviously aimed at a numerical minority, mostly small dealers.

The time may come when people will get interested in fueloil for its own sake, go out and buy a tankful and then start hunting for a device to burn it. But that will be a new day . . . it hasn't happened up to now. Today's fueloil men would still be in some other business if oilburner salesmen hadn't gone out day after day and night after night, making a meager living by persuading householders that they could live better with oilheating.

Before the war oilburner retailing had become almost a bankrupt industry. Prices were squeezed down to a point where it was virtually impossible for any dealer to exist exclusively on oilburners. Today, and very temporarily, burners are easy to sell at a profit . . . that won't be true in another year or so; we'll be back to tough competitive selling.

The commissions that oilburner dealers get from oil companies on the fuel contracts they are able to turn over have in the past kept these dealers alive. In each instance they initiated the demand for 1,500 or 2,000 gallons of oil a year by selling the burner. They definitely earned a commission on the fuel that will fire that burner.

Oil men who object to burner dealer commissions must recognize that almost no exclusive burner dealership can exist without oil income in some form. If they are to be deprived of commissions they may buy trucks and build their own oil routes, as so many have already done. Everyone knows that when a burner is sold the dealer can get an oil contract in four out of five cases if he is in position to handle it.

So which is better . . . to pay him a commission on the business that he, and he alone, creates . . . or force him into direct oil deliveries?

When oil men today object to burner men getting income from fuels, they not only bite the hand that feeds them now, but also the hand that gave them their only excuse for being in the fueloil business. It is shortsighted to put the golden egg laying goose on a starvation diet.

◈

Little more than a month after this issue is distributed the doors will open on the first postwar oilburner show. This is an event that will mark the official start of the much-discussed "postwar era" and send the industry formally on its way. Though the exposition is the 23rd which has been sponsored by Oil Heat Institute and its predecessors, it may well be considered the first for thsoe who are to continue in the oilburner business.

Few companies that intend to be active in oilheating during the years to come can afford to stay away from this "formal opening" of the postwar period. Dealers and the public alike, are watching to see how the postwar team shapes up. It is a long way to a decision in the battle of the fuels, but the kind of a start the home team makes will have a lasting effect on the morale of the cheering section. A good start and the resulting enthusiasm it will create can be an important factor in the competitive battle.

Booth space sales already have far outstripped the best prewar show, indicating a high order of enthusiasm and determination by old and new manufacturers, but a few still were absent from the last roster of exhibitors. Most manufacturers are "sold out" and not actively looking for immediate business, but this should not keep them from exhibiting. The impressions dealers will carry away from the show will be more lasting than this temporary flush of demand. The trade and the public will make up their minds for the future from what they see at Philadelphia and not on the basis of who will take an order or promise a doubtful delivery.

The big game starts in little more than a month. Those who are serious about playing in it should be on hand at the start.

◈

In a recent issue of "Business Week" the increasing headaches of the bituminous coal industry were summarized, with possible solutions pointed up in the activities of Bituminous Coal Research, Inc. Coal producers support the research activity at the rate of one-fourth cent per ton shipped.

Bituminous reached its all-time peak in 1944, when 620 million tons were sold; this dropped to 575 million tons in 1945, and industry forecasts for the next five years vary between an average of 500 million and 532 million tons. These forecasts, however, assume that coal will not lose further ground to competitive fuels that were crowding it before the war . . . a very questionable assumption.

Back in 1905, bituminous coal was the source of 71% of the energy produced in this country; by 1942 it had dropped to 48%. Meanwhile oil and gas as a source of energy had increased from 9% to 36%, and water power from 2% to 11%.

The oil industry has not only taken a big bite out of coal demand, but it threatens to dig much deeper in two fields, home heating and railroad locomotive power. Bituminous sales in 1942 were divided to applications as shown in the table.

1942 Bituminous Sales by Uses

	Tons	*%*
Electric utilities	65,634,000	12.14
Class I railroads	115,410,000	21.34
Coke	100,921,000	18.67
Other industrials	154,011,000	28.48
Retail deliveries	104,750,000	19.37

In three national surveys of consumer opinions made during the past year (one by FUELOIL & OIL HEAT, one by Curtis Publishing Co., the third by a major oil company) public preference for coal as a heating fuel were found to be, respectively, 22%, 25% and 28%. Clearly, at least two-thirds of householders now heating with coal want to get away from it. Smoke abatement drives in Midwest cities, temporarily suspended during the war, will soon be in full swing, further emphasizing to the public that coal is not the ideal home fuel.

With more than a fifth of all bituminous coal going into railroad locomotives before the war, the growing diesel threat

(*Continued on page* 116)

McDONNELL NO. 67 LOW WATER CUT-OFF

—the best guardians of that "vital quarter-inch"

• The No. 67 is for automatically - fired steam boilers of any size; maximum boiler pressure, 25 lbs. Electrical ratings: A.C. ¾ hp. 115-230V.; D.C. ¼ hp. 115V.

A LOW water cut-off isn't one of those things that has to work right just most of the time. It has to work right *all* the time. When the water line crosses that vital quarter-inch level in the gauge glass, the boiler is doomed unless the cut-off "clicks" right then and there!

That's why we have been so particular about every detail of the design and construction of the McDonnell No. 67. That's why you should be equally particular about insisting on the dependable No. 67 for all automatically-fired heating boilers.*

The No. 67 has the McDonnell Quick-Hook-Up for easy, accurate installation in the gauge glass tappings; the packless (bellows) construction; the deep sediment chamber; the large-area blow-off valve, and many other distinguishing features. And remember that the same basic dependability is found in —

McDONNELL "BUILT-IN" TYPE LOW WATER CUT-OFFS

In most modern boilers a tapping is provided for the installation of the McDonnell "Built-in" as illustrated here. It incorporates the construction which has given new meaning to dependability in the No. 67. An outstanding feature is the self-cleaning float shield which keeps the cut-off operative even when a large amount of sediment and foreign matter is present in the boiler water.

The extra switch for operating the McDonnell No. 101 Electric Water Feeder is especially valuable in the "Built-in" Cut-off because it solves the problem of automatic water feeding for the modern dressed-up jacketed boilers.

Ask for current condensed catalog giving complete information on McDonnell Boiler Water Level Controls for boilers of all sizes, types and operating pressures.

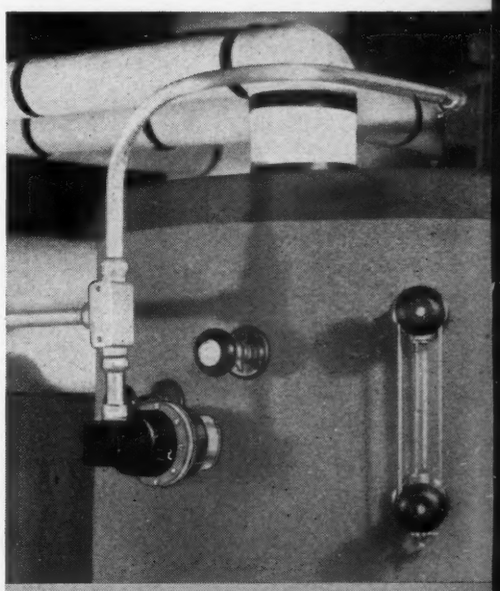
McDONNELL & MILLER, 1310 Wrigley Bldg., Chicago 11, Illinois

Doing One Thing Well

REG. U. S. PAT. OFF. SAFETY CONTROLS

No. 69 No. 169 No. 369

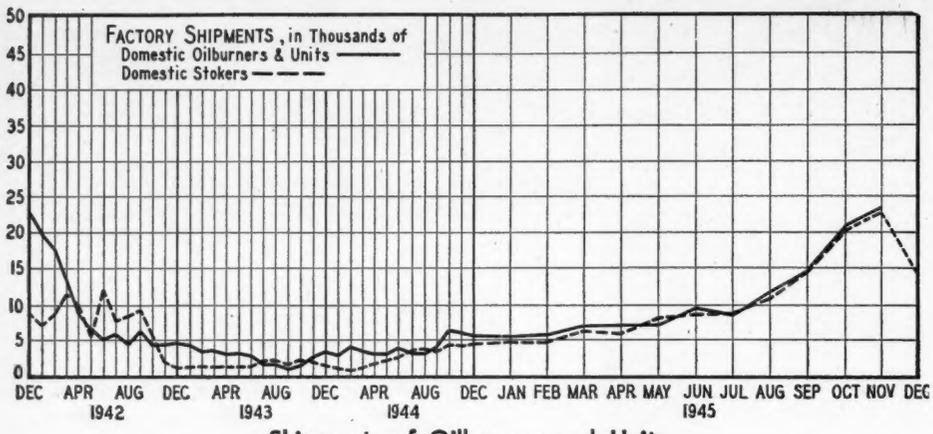
*If the boiler owner is willing to spend a few dollars more, a McDonnell Feeder-Cut-off Combination is still better. It makes the boiler water level as automatic as the firing.



• Typical installation of "Built-in" Low Water Cut-off. Types are available for all makes of boilers having provision for them. Some typical "Built-ins" are illustrated opposite.

©M&M

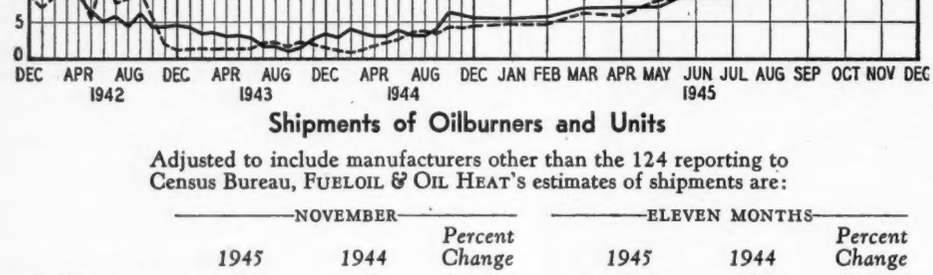
McDONNELL *Boiler Water Level Controls*


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 124 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	NOVEMBER			ELEVEN MONTHS		
	1945	*1944*	*Percent Change*	*1945*	*1944*	*Percent Change*
Conversion	20,604	4,092	+405.0	101,633	32,282	+214.5
Boiler units	938	871	+ 7.2	7,091	5,674	+ 24.8
Furnace units	1,784	959	+ 85.8	13,222	5,067	+161.3
All domestic	23,326	5,922	+294.0	121,946	43,023	+183.0
Commercial	1,796	2,660	— 32.5	31,143	29,322	+ 6.1
Total	25,122	8,582	+192.8	153,089	72,345	+112.1



January Minimum Retail Prices: Key Dealers

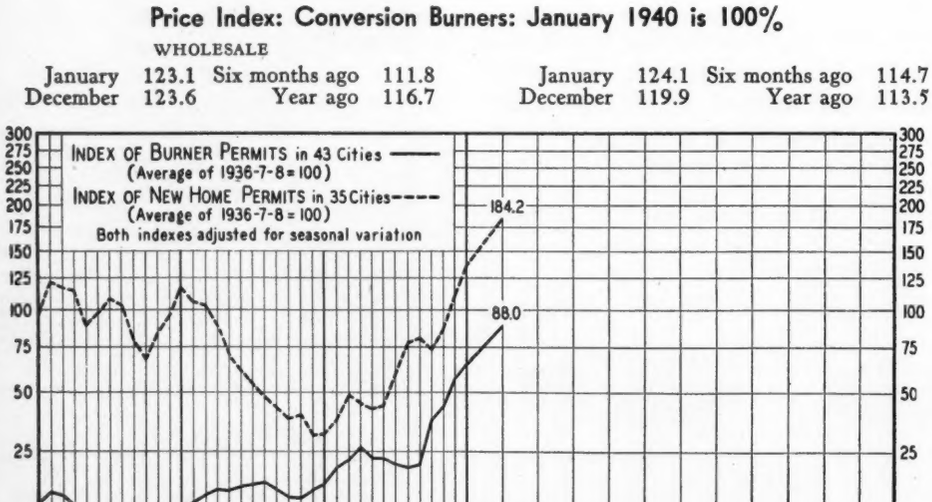
	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$400	$...	$800	$...	$580	$...
Lowest	200	...	400	...	450	...
Jan. Aver.	281	...	557	...	490	...
Dec. Aver.	276	...	530	...	482	...

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more, for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE

January	123.1	Six months ago	111.8	January	124.1	Six months ago	114.7
December	123.6	Year ago	116.7	December	119.9	Year ago	113.5


INDEX OF BURNER PERMITS in 43 Cities
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS in 35 Cities
(Average of 1936-7-8=100)
Both indexes adjusted for seasonal variation
184.2
88.0
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943
1944
1945
1946

Oilheating Trends

INSTALLATIONS of domestic oilburners and units in January are estimated at 27,965. This compares with 23,549 in December and 25,356 in November and indicates that burners are currently being turned out by factories at the rate of around 25,000 a month. When that many burners can be produced under today's conditions of labor troubles and material shortages, it is not unreasonable to expect the industry to reach a 50% higher rate sometime during the year. It will not have to increase that much to provide the 420,000 burner sales forecast for 1946 by FUELOIL & OIL HEAT in its issue of October 1944. New orders for oilburners received by dealers in January were approximately 27,716, slightly less than the installations made for the second successive month. This is not to be taken as an indication of a drop in demand, but simply shows that dealers are trying to catch up on their large backlogs before attempting further sales.

BURNER STOCKS: Stocks of domestic burners and units in dealer hands on January 31 were approximately 6,579. This is up about two thousand from the previous month, which does not indicate a stock accumulation, but rather that burners are moving a little more freely. Factory stocks on November 30, the latest available information, were 3,889, an all-time low point.

BURNER SERVICE PARTS: Several dealers have complained that repair parts for burners are becoming harder to get than they were during the most stringent war years. Scarcity of parts was checked with the same group of dealers a year ago this month and then last summer in July. The hardest item to get just now seems to be transformers, then motors, pumps and controls in that order. The percent of reporting dealers having serious difficulty getting principal parts at each of the three dates is shown:

	February 1945	*July 1945*	*February 1946*
Transformers	18	19	52
Motors	70	47	49
Pumps	49	37	48
Controls	39	44	44

Numerous other parts scarcities are mentioned but these are not as serious as on the two former dates. For example, only 7% of dealers now report nozzle scarcity compared with 16% in July. Other items mentioned by a few dealers are relays,

aquastats, clock thermostats, oil valves, capacitors, float controls, precast chambers, tanks, and industrial burner parts.

SERVICE INCOME: Average service department income of reporting dealers for January was $2,490, up 32% from the $1,880 reported by the identical group for the same month of 1945. This compares with $2,956 in December and $3,018 in November.

BURNER PRICE CHANGES: When burner prices were raised on January 4, dealers had quite a lot of orders on hand taken at former prices and there was some difference of opinion as to whether they could afford to let the old prices stand or whether the price should be raised on this backlog. Of all dealers reporting on this question this month 39% went back to the buyers and raised their contract price to cover the added burner cost. The other 61% let the old price stand. The dealers were then asked how much they added to their new price for future quotations as a result of this burner cost increase, and 44% of them say that they added only the net difference in the cost of the burner. The other 56% added their cost increase plus a corresponding increase in their markup.

FUELOIL PRICE RISE: Dealers were asked this month what reaction they have had from present customers and burner prospects over the fueloil price rise of January 24. Half of them say they have had no reaction; 46% report a little reaction and 4% say they have had an important number of complaints. In some markets the higher fueloil price will obviously work against burner sales . . . 23% of the reporting dealers expect this to happen in their cities and the other 77% thinks it will make no difference. It is interesting that the dealers expecting that the higher oil price will hurt their business are all in cities where gas competition is important, most of them in the Midwest. From only two eastern markets, Philadelphia and Westchester County, New York, were reports received indicating belief that the higher oil price would hurt burner sales, and these are the two eastern spots where gas competition is particularly vigorous.

The oil price rise was believed necessary to get refiners to produce more fuel to meet the expected shortage in eastern markets this winter. Only 4% of the eastern oil men reporting say that they ran completely out of distillate at any time and only 6% were out of kerosene. However, all of these companies say that no one of their customers had to go cold because they were unable to deliver.

TYPE OF OIL: During the late war years distillate fueloil, particularly in eastern states, became considerably heavier than it had been prewar. Exactly half of the eastern reporting fueloil men say that the character of the oil has improved since V-J Day; the other half finds no change. The average API gravity in eastern states is 32°, but the gravity ranges rather widely above and below that average figure. Thirty percent of the distributors say that the oil they now get is 30 gravity or lower, 20% say that it is from 31 to 33 gravity, and 50% report 34 gravity or higher.

Reports from the Midwest indicate average API gravity on distillate heating oil of 35°, with 29% saying their product is 30 gravity or lower, 14% reporting 31 to 33 gravity, and 57% saying that their fuel is 34 gravity or higher.

STOKERS: Final figures on factory shipments of Classes 1 and 2 stokers for the full year of 1945 show a total of 132,510. This is divided into 5,445 anthracite and 127,065 bituminous.

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
January		12 MONTHS			January		12 MONTHS	
1946	1945	1945	1944		1946	1945	1945	1944
330	..	..	206	Baltimore, Maryland	162	0	561	173
..	..	..	..	Binghamton, New York	2	0	37	1
210	60	..	238	Boston, Massachusetts	24	0	..	0
41	17	430	123	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	6	1	63	45
..	..	..	..	Des Moines, Iowa	23	0	..	12
99	15	..	205	Detroit, Michigan	737	185	3341	2467
22	3	171	32	Elizabeth, N. J.	0	0	..	0
20	7	162	64	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	5	1	52	2
10	0	655	82	Hartford, Conn.	..	..	..	..
17	5	120	18	Irvington, N. J.	0	0	3	8
..	..	..	..	Lynn, Massachusetts	0	0	8	1
82	5	304	45	Milwaukee, Wisc.	49	3	..	261
50	15	729	226	Minneapolis, Minn.	84	14	728	183
18	4	114	34	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	1	0
40	14	268	124	Mt. Vernon, New York	..	..	..	..
42	29	373	171	New Bedford, Mass.	..	..	..	..
28	5	206	43	New Haven, Conn.	..	..	..	..
0	0	0	3	New Orleans, La.	..	..	..	..
33	49	207	25	New Rochelle, N. Y.	1	0	15	1
388	88	..	318	Manhattan, Bronx, Rchd	..	..	..	..
..	..	..	..	Norfolk, Virginia	11	4	69	15
0	1	3	8	Oakland, Calif.	..	..	..	..
66	13	259	166	Omaha, Nebraska	37	9	292	381
10	1	96	3	Orange, New Jersey	2	0	12	0
24	5	..	..	Passaic, New Jersey	..	..	..	..
28	2	251	67	Paterson, N. J.	1	0	5	4
..	..	..	..	Plainfield, N. J.	12	0	19	7
27	12	267	40	Portland, Maine	1	0	5	4
241	25	1687	176	Portland, Oregon	200	12	596	445
22	..	..	..	Poughkeepsie, N. Y.	..	..	..	..
53	18	200	..	Providence, R. I.	1	0	20	1
..	..	..	..	Reading, Penna.	1	0	22	0
17	0	99	0	Richmond, Virginia	56	53	598	203
36	3	..	0	Rochester, N. Y.	..	..	..	..
13	1	109	39	Rockville Center, N. Y.	4	0	41	0
9	3	70	30	Salem, Massachusetts	1	0	4	0
50	13	206	74	St. Louis, Missouri	14	0	47	0
112	9	458	160	St. Paul, Minnesota	57	5	527	93
34	4	..	18	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	181	90	1364	1212
..	..	..	..	Springfield, Mass.	5	0	182	16
23	9	..	37	Stamford, Conn.	..	..	..	..
18	..	..	8	Syracuse, New York	6	0	107	22
..	..	..	..	Trenton, New Jersey	0	3	5	8
..	..	..	..	Utica, New York	0	0	9	31
136	43	595	182	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	1	0	17	0
24	3	221	82	White Plains, N. Y.	0	0	6	0
45	3	176	24	Wilmington, Delaware	0	0	34	10
43	15	357	194	Worcester, Mass.	..	..	..	..
36	9	..	95	Yonkers, New York	..	..	..	..
2127	508	8593	2235	*Totals*	1684	380	8790	5333
+318.7		+284.4		*Percent Change*	+343.1		+64.8	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

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AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Nip and Tuck

Higher Ceilings Help to Increase Heating Oil Production

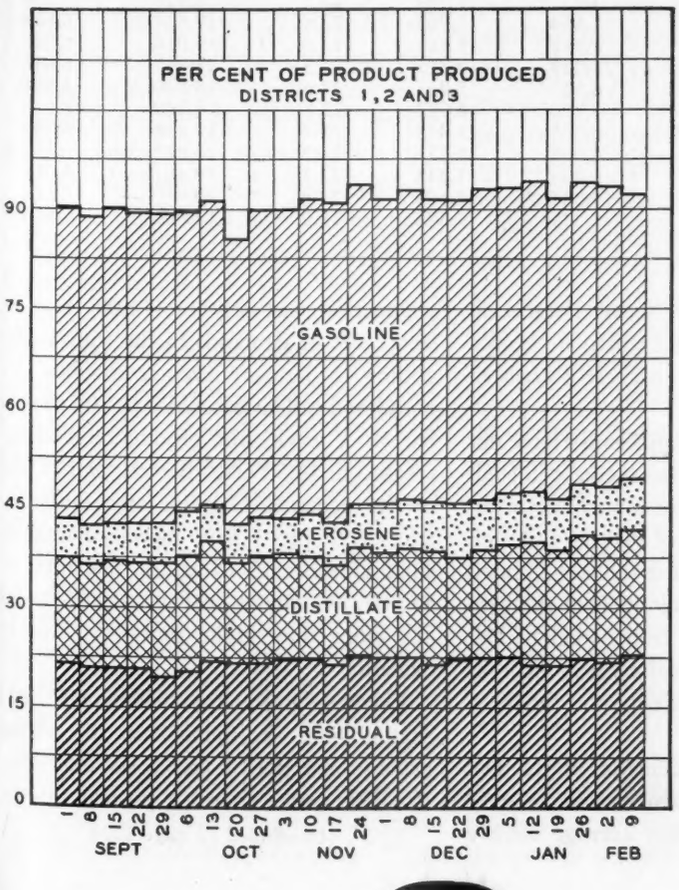
By
A. E. Coburn

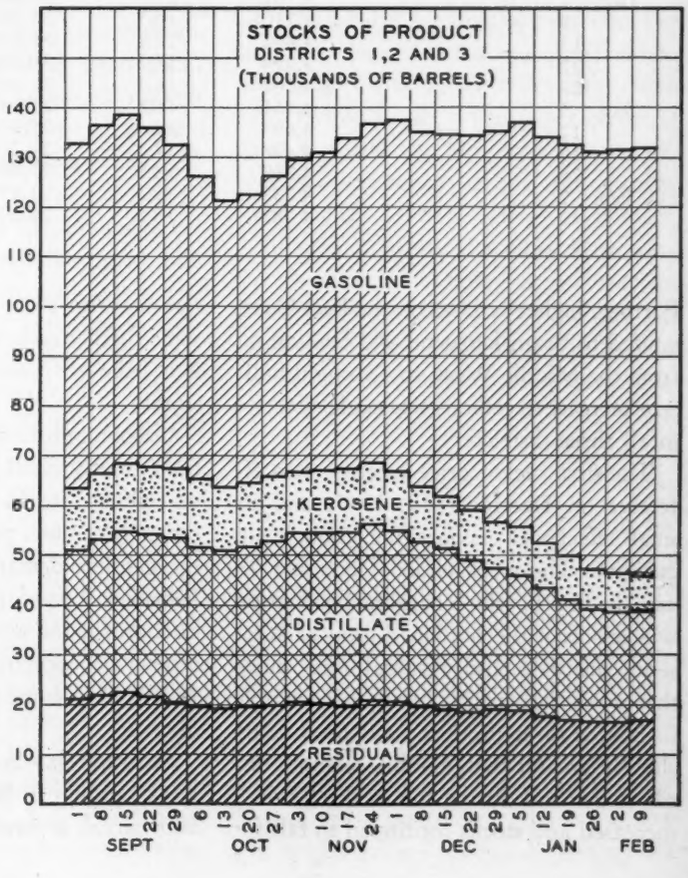
PETROLEUM economic problems are looming large in the minds of some fueloil men these days, and specifically the question of how much heating oil prices can be increased to encourage their production. Present relative prices of petroleum products might be about right, some men think, but equipment manufacturers and dealers feel that present fueloil levels are considerably too high to encourage the kind of expansion they have been led to expect. In some localities the present price of No. 2 oil is equal to gas in raw heat per dollar, and in many others the spread is too small to give fueloil any real price advantage.

It is conceivable that present relative prices of petroleum products could stay roughly where they are today, and yet be reduced in cents-per-gallon. This is a fear that is not too hard to find expressed among oil men. Abundant crude oil and excessive refinery capacity for present demands may conspire to work prices down on all products, but oil men warn that this is a sure road to disaster in these days of rising costs.

The problem was pointed up by the industry-inspired increase in OPA's ceiling prices on kerosene and distillate, followed closely by an industry-announced reduction in the wholesale price of gasoline. Kerosene and distillate price ceilings were raised a half-cent on January 24 in Districts 1 (East Coast), 2 (Middle West), and 3 (Gulf Coast), after a previous trial in Districts 1 and 3 had put the price up a half-cent on kerosene and two-tenths on No. 2.

This first trial plainly was in the direction the petroleum industry wanted, but did not go far enough. The increase in the ceiling was designed to encourage the production of distillate heating oils at the expense of gasoline. Heating oils were getting desperately short, and gasoline stocks were mounting to an all-time high. Some major companies were running heavy on heating oils to avert a crisis in heating oil supply, and too-great stocks of gasoline which would overhang the spring and summer market. They were not able to slow the flood of gasoline that kept pouring from the smaller refiners, or to build stocks of distillate above the critical level. The only answer seemed to be to ask OPA for higher ceilings for kerosene and distillate to encourage the smaller refiners to supply needed products and cut their contributions to the gasoline stockpile.





The Product Picture
Districts 1, 2 and 3
(Figures in Thousands of Barrels)

1945-46 Week Ended	Runs to Stills	GASOLINE Production	GASOLINE % of Runs	GASOLINE Stocks	GASOLINE Demand	KEROSENE Production	KEROSENE % of Runs	KEROSENE Stocks	KEROSENE Demand
Sept. 1	25,893	12,180	47.0	69,237	12,003	1,505	5.8	12,724	938
8	25,998	12,157	46.7	70,128	11,266	1,541	5.9	13,296	969
15	25,690	12,218	47.5	69,969	12,377	1,459	5.6	13,661	1,094
22	25,277	11,763	46.5	68,322	13,410	1,545	6.1	13,701	1,505
29	19,509	9,051	46.3	65,115	12,258	1,241	6.3	13,981	961
Oct. 6	17,304	7,793	45.0	60,924	11,984	1,115	6.4	13,764	1,332
13	19,726	9,014	45.6	57,500	12,438	1,105	5.6	12,764	1,905
20	26,047	11,306	43.4	57,820	10,986	1,481	5.6	12,835	1,410
27	27,349	12,683	46.3	60,470	10,033	1,599	5.8	13,001	1,433
Nov. 3	27,216	12,676	46.5	62,646	10,500	1,493	5.4	12,194	2,300
10	27,398	13,108	47.8	63,940	11,814	1,693	6.1	12,245	1,642
17	26,789	12,894	48.1	66,372	10,462	1,696	6.3	12,659	1,282
24	26,173	12,851	49.1	68,131	11,092	1,707	6.5	12,493	1,873
Dec. 1	26,397	12,408	47.0	70,490	10,049	1,734	6.5	11,970	2,257
8	25,403	12,104	47.6	71,245	11,349	1,644	6.4	11,189	2,425
15	25,739	12,008	46.6	72,838	10,415	1,676	6.5	10,576	2,289
22	26,005	12,187	46.8	75,281	9,744	1,844	7.0	10,090	2,330
29	26,194	12,176	46.4	78,293	9,164	2,031	7.7	9,587	2,534
Jan. 5	26,397	12,023	45.8	81,147	9,169	2,071	7.8	9,870	1,788
12	25,445	11,918	46.8	81,627	11,441	1,976	7.7	8,999	2,847
19	26,110	11,677	44.7	82,741	10,560	2,140	8.1	8,813	2,326
26	25,347	11,489	45.3	83,950	10,280	1,938	7.6	8,129	2,622
Feb. 2	25,501	11,536	45.2	85,032	10,454	2,023	7.9	7,998	2,154
9	25,515	10,739	42.5	85,992	9,779	2,030	7.9	7,598	2,430

	DISTILLATE Production	DISTILLATE % of Runs	DISTILLATE Stocks	DISTILLATE Demand	RESIDUAL Production	RESIDUAL % of Runs	RESIDUAL Stocks	RESIDUAL Demand
Sept. 1	4,189	16.1	29,785	3,118	5,516	21.3	21,083	5,014
8	4,092	15.7	31,227	2,650	5,368	20.6	21,795	4,656
15	4,314	16.7	32,513	3,028	5,255	20.4	22,246	4,804
22	4,127	16.3	32,668	3,972	5,158	20.4	21,349	6,055
29	3,337	17.1	32,943	3,062	3,814	19.5	20,378	4,785
Oct. 6	3,117	18.0	32,047	4,013	3,488	20.1	19,437	4,429
13	3,532	17.9	31,734	3,845	4,367	22.1	19,168	4,636
20	3,956	15.1	32,480	3,210	5,654	21.7	19,358	5,464
27	4,415	16.2	33,040	3,855	5,935	21.7	19,765	5,528
Nov. 3	4,310	15.8	34,369	2,981	6,096	22.3	20,310	5,551
10	4,208	15.3	34,677	3,900	6,167	22.5	20,120	6,357
17	4,036	15.0	35,166	3,547	5,803	21.6	19,693	6,230
24	4,201	16.0	35,274	4,093	6,060	23.1	20,826	4,927
Dec. 1	4,162	15.7	34,483	4,953	5,964	22.5	20,426	6,364
8	4,210	16.5	33,039	5,654	5,704	22.4	19,587	6,543
15	4,402	17.1	32,229	5,212	5,511	21.4	19,016	6,082
22	3,994	15.3	30,490	5,733	5,813	22.3	18,347	6,482
29	4,267	16.2	28,437	6,320	5,937	22.6	18,860	5,424
Jan. 5	4,451	16.8	27,138	5,750	6,027	22.8	18,760	6,127
12	4,694	18.4	25,801	6,001	5,455	21.4	17,446	6,769
19	4,498	17.2	24,204	6,095	5,578	21.3	16,815	6,209
26	4,789	18.8	22,502	6,491	5,658	22.3	16,461	6,012
Feb. 2	4,733	18.5	21,954	5,281	5,608	21.9	16,440	6,629
9	4,788	18.8	21,393	5,359	5,878	23.0	17,000	5,318

Further, higher ceilings on the East Coast tended to drain kerosene and heating oil from the Middle West, so a straight half-cent increase in ceilings was made effective in all three districts.

The first fueloil price increase was effective on December 19, 1945, and its small effect was encouraging, though not curative. The week ended December 29 was the first in which gasoline production was less than the combined total of kerosene, distillate and residual oils. Since that week the burning oils have been able to hold a three-product total production slightly greater than gasoline, though distillate demand during the week of Feb. 9 increased and stocks continued to fall for the eleventh successive week. Even with some further reduction in distillate stocks, it is believed possible to avert a crisis in supply.

Gasoline problems apparently have not been greatly eased by the increase in fueloil ceilings. Stocks were continuing to increase in the first part of February though the gasoline demand for the week ended February 9 was up to 91.0% of the production for the week. In the week of December 29, demand had been as little as 75.2% of gasoline production in the three districts.

Average gasoline demand in the five weeks ending in September was 12,263,000 barrels a week, but average weekly production was only 11,474,000 barrels, or 93.8% of demand. In the four weeks ending in January average gasoline demand had fallen seasonally to 10,363,000 barrels a week, but production had increased to 11,777,000 barrels, or 113.6% of the demand. Gasoline stocks in Districts 1, 2 and 3 have increased steadily since October 13 to an all-time high of 85,992,000 barrels on February 9. Stocks are more than eight times the weekly demand.

Kerosene production has shown little change since the increase in the ceiling price in Districts 1 and 3 on December 19. That price increase pushed up the

(*Continued on page 122*)

Operating Comparisons by Cities

Data on Individual Cities Picked from January Issue Study

EACH YEAR AFTER THE January Yearbook issue is published containing a statistical analysis of the industry's operation in the year just closed, several dealers phone or write the editors to learn if they cannot get similar figures for their individual cities.

This type of city breakdown has not been attempted in previous years since there was always some question as to how many returns were necessary from the individual city in order to be sure that the figures compiled could be considered reasonably representative. The sectional breakdown such as New England, Mid-Atlantic, Midwest, etc. is on firm footing since there are a large number of returns from each section. This year there are enough from twelve cities or groups of cities to make their data of some value. In studying the figures, however, it is important to recognize that these are not positive answers to the questions because of the limited number of returns. They are reasonably useful for dealers in the cities in making comparisons with their own operations and they are of some benefit to the industry at large in showing that there is a wide diversity between specific cities in operating characteristics on the more important industry functions.

Under the heading "Mokawk Valley" are included the principal cities along the New York Central main line from Albany to Buffalo.

Average Burner Price

The national average price for a conversion burner installation in 1945 was $313. Notice in the table that the average price by cities ranged from a high point of $444 in New York City to a low of $291 in Baltimore. New York has requirements in city ordinances that pile up costs, many of them arbitrary requirements to bolster some labor group. For example, last spring in New York a new ordinance required far more elaborate electrical work than has ever been customary on oilburner installations, going to such lengths as requiring rigid conduit for low-voltage thermostat wiring. This increased the electrical cost by about $40 on a simple conversion installation.

When dealers in their reports give their cost figures, such as installation materials and installation labor these are not always based on the same method of calculation. In New York, for example, where union practices require using outside men for part of the work, some dealers include this outside labor cost in their figure for materials, and limit their labor-cost figure to the work actually done by their own men. Others include the outside labor in their labor-cost figure. Thus, in considering the individual cities it is safer to put together the labor and material cost and consider this as a unit.

Costs Are Higher

It is interesting to notice that the cost of getting the burner is considerably higher in New York and Chicago, the country's two largest cities, than in any of the other cities except Minneapolis. This would not be so in normal times, but at present the dealers in these large places have opportunities to pick up burners from jobbers, or sometimes from small manufacturers, not too meticulous about price ceilings, and they pay more for these than they would for shipments from their regular factories.

The gross margin, or the difference between primary costs and selling price was greater in New York than in any of the other cities, but was not particularly high when considered as a per cent of the sales price. Actually, Baltimore with the lowest average selling price had the highest per cent of gross margin. Dealers in that city had the lowest primary costs.

In the second section of the table the tie-up between burners and oil in the same companies is measured by the per cent of oilburners sold by combination burner and oil dealers against total burners sold in that city. Baltimore has the strongest amalgation of burner and oil interests with Boston second and Washington third. The difference between Seattle and Portland is surprising, for while it is known that the cities vary in the direction shown, it is possible that the variation is not actually this wide. This is one of those situations described at the start of the article in which we may have had too few returns to be representative.

Wage rates for service men are highest, as would be expected, in New York and Chicago and lowest in Boston, Baltimore, and Washington. Where blank spaces appear there were too few answers on the specific question to be safely used.

Oilheating users in Philadelphia and in New York suburbs spent more with service departments last year than did consumers in any of the other cities. Some of this is due to merchandising accessories through service departments, but some of it is also due to high charges for service work. It may or may not be a coincidence that in the consumer survey of fuel preferences made last summer and published in the early fall issues of FUELOIL & OIL HEAT, Philadelphia and the New York suburbs showed the weakest preference for oilheating among the eight eastern cities surveyed, while Baltimore, which had the lowest average service cost per customer showed the strongest oilheating preference. Seattle and Portland, with low-average service revenue per customer were also near the top of the list for oilheating perference among the twenty cities included in the survey nationally.

In seven of the twelve cities there were too few dealers taking annual service contracts to be able to get a figure. The Mohawk Valley cities had the highest average service contract charge and Boston the lowest.

Operations Vary

The more study given to figures of the oilburner business in individual cities the more apparent it becomes that there is real diversity in operating practices based largely on the competitive pattern. When service contract charges in one group of cities of similar characteristics such as in the Mohawk valley are twice as much as those in a big market like Boston, it becomes clear that it is not safe to generalize on what constitutes the

	Boston	New York	N. Y. Suburbs	Phila.	Balti-more	Wash-ington	Mohawk Valley	Detroit	Chicago	Min'pls. St. Paul	Seattle Tacoma	Port-land,O.
CONVERSION BURNER PRICE	$304	$444	$325	$327	$291	$294	$320	$310	$346	$302	$317	$323
Conv. Burner Cost	94	103	95	99	77	84	100	83	106	115	83	90
Labor Cost	58	71	41	37	28	34	45	61	43	38	28	35
Inst'n. Materials	78	119	99	67	57	54	74	73	97	59	75	92
Gross Margin	74	151	90	124	129	122	101	93	100	90	131	106
Gross Margin, as per cent of sale	24	34	28	38	44	41	32	30	29	30	41	33
BURNER-OIL TIE-UP												
Per cent of total burners sold by Co's. selling oil	80	73	68	58	89	79	66	54	.70	..	5	32
SERVICE WAGE RATES												
Average Top Men	$1.23	1.89	1.34	1.58	1.26	1.31	1.55	1.68	1.87	1.43	1.61	1.52
Average Helpers	.89	1.07	1.03	1.04	.75	.72	1.03	1.26	..	..	..	..
SERVICE INCOME												
Avg. Per Customer	$14.62	12.28	18.86	18.52	5.99	7.13	9.58	11.57	10.07	..	6.39	7.31
Min. Call Charge	3.36	2.60	3.10	3.22	2.48	2.67	2.68	2.79	3.13	2.51	2.62	2.44
Service Contract Charge	10.42	17.82	15.38	16.38	..	..	20.72	..	..	..	..	..
Vacuum Cl'g. Charge	7.27	9.83	8.24	10.66	4.79	5.20	10.87	11.79	9.87	6.15	6.03	..
FUELOIL-DISTILLATE												
Gallons Per Customer	2,065	1,890	1,809	1,416	1,162	1,154	1,521	1,831	1,654	..	1,034	1,273
Customers Per Truck	206	372	229	211	383	..	274	..	208	..	461	442
Miles Per Truck	8,071	18,900	17,719	13,440	8,833	..	19,444	..	13,636	..	8,142	13,925
Gallons Per Truck (Thous.)	425	703	414	299	445	..	417	..	302	..	563	414
Gallons Per Drop	174	231	216	215	194	..	183	..	325	..	191	323
Gal. Per Truck Mile	52	37	23	22	50	..	21	..	22	..	59	40
Per cent of Customers on Automatic Delivery	43	77	90	86	91	..	89	75	72	..	76	64
Margin—With Bulk Plant	2.19	..	2.28	..	2.28	..	1.89	..	2.07	..	..	2.22
Without Bulk Plant	2.31	1.90	1.95	2.18	1.92	..	..	..	..	..	..	1.85

oilheating industry. High service charges are commendable if they mean that the consumer gets a lot more satisfaction from oilheating, but they are detrimental if he is simply being overcharged.

In the group of figures relating to fuel-oil distribution, the first line, gallons of distillate fuel per customer, seems to fit the recognized pattern with one or two exceptions. The gallonage drops as the cities move farther south. Philadelphia and Baltimore average consumption is lower than it would be if Degree-Days were the only yardstick, but it is well known that those cities have a preponderance of row houses with limited heat loss. Many of these in Balitmore have annual consumption as low as 800 gallons. In the Pacific Northwest it is hard to understand why Seattle has considerably lower average consumption than Portland. Again, this may be due to not getting enough returns from those two cities to have a true picture.

The variation in number of customers served per truck and the number of miles operated per truck reflect principally the degree of concentration of customers in the specific cities. Boston, Philadelphia and Chicago serve the fewest customers per truck but the industry situations in the three cities are not comparable. The average Boston dealer drives only 8,000 miles to serve his 206 customers, while the Chicago dealer drives nearly 14,000 miles to serve 208 customers, showing that his customers are more widely scattered. In Philadelphia where customers are quite plentiful, dealers are inclined to operate widely over the entire area rather than featuring a particular neighborhood. The net result of all these factors is shown in the number of gallons delivered per truck mile. Among eastern cities this is highest in Boston and among all of the cities it is highest in Seattle. Generally speaking, since the fueloil business is primarily a delivery business, the number of gallons delivered per truck mile is a pretty good indicator of the efficiency of the industry in a particular city, and its profit possibilities.

The average gallons per drop runs from a low point of 174 in Boston to a high of 325 in Chicago, and reflects primarily the difference in average customer tank sizes. Chicago has many large tanks and also has a price break at 400 gallons with the result that dealers try to drop that much in all of the large tanks. In the Pacific northwest, Portland averages much larger customer tanks than in Seattle. Most oilburner installations in recent years in Portland have had 625 gallon buried tanks. Baltimore, averaging 194 gallons per drop is doing a good job since 92% of all customers tanks in that city are 275 gallons or smaller.

Fueloil margins, according to reports from dealers, are not at all uniform in individual cities, with the variations depending apparently on the desirability of the particular account. The degree of desirability is influenced by size but influenced more by geographic considerations such as location in relation to primary terminals. Major oil companies have posted prices for operators of bulk plants, commonly called a tank-car price, and for operators without bulk plants, normally about three-tenths higher than the tank-car price. In only four of the twelve cities was it possible to show both prices, and in three of those the spread between the two prices is at least three-tenths. In Boston, however, the margin of reporting bulk plant operators was actually less than those of the reporting companies without bulk plants. This is obviously an accidental situation and would be changed if the figures were based on more companies, but it does clearly show that the three-tenths differential is not commonly observed in that market.

Toward Quieter Oilheating

Practical Service Remedies for Flame and Motor Noises

By
J. W. Schulz

"YOUR FUEL BILLS will be half of what they used to be with gas, and if you stay out of the basement you won't know whether you are heating by gas or oil," said a certain oilburner dealer before the war, as his hard-hitting sales appeal to home owners who were heating with manufactured gas. He knew he was promising the cleanest, quietest oilheating which was attainable at that time. The pressure burners he installed under boilers designed for gas made good his promises —thanks to the quality of the burners he handled and the know-how of his installation and service men.

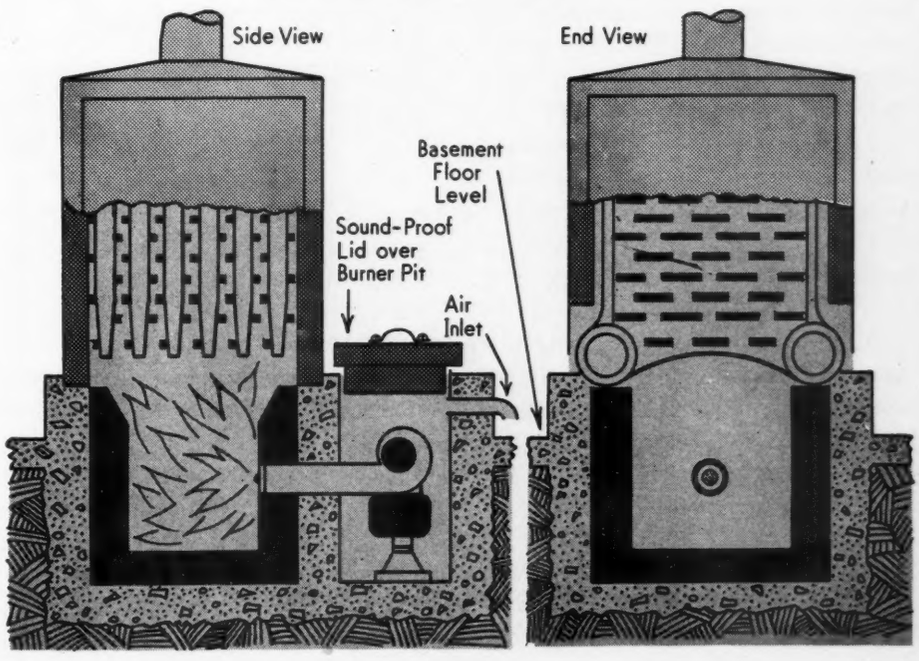
An oilheating equipment dealer can gain much in certain cities by making the kind of promise this dealer made, for more important than the number of gas boilers converted to oil is the number of home owners who are swung away from considering gas and towards oil as a result of seeing before-and-after data concerning the gas-designed boilers which were converted to oil. A home owner teetering on the fence between oil and gas often can be influenced by learning that John Jones once paid $60 for the gas used in January, but now pays $30 for the oil used during the same month and actually finds the oil heat as clean, quiet, and dependable as the gas used to be.

But as dealers familiar with gasfired and oilfired equipment know very well, gas heat is clean and quiet; it takes more than ordinary effort to satisfy home owners who have been promised that oil will be just as clean and quiet.

The practical methods for making oilburners exceptionally quiet are the big point of this article. But, to digress for a moment since clean burning has been mentioned, it should be reported that the dealer who converted these gas boilers to oil had no difficulty in arriving at such clean combustion that the flues of the gas boilers did not need cleaning for three to four years at a time. The tops of the gas boilers stayed clean of soot particles. You could blow on the tops of the boiler jackets without having an army of soot specks beat a speedy retreat to the other side, and you could touch a handkerchief to the top of a horizontal smokepipe without picking up soot smears. There are thousands of burners, seemingly loved by no one, which do deposit soot particles about basements. The fact that good burners can give clean burning when installed and serviced properly has been proved often, but it needs additional proving where gas heating competition is involved.

To arrive at exceptional quietness for the gun burner which fires a gas boiler, use the ideas shown in the accompanying illustration. There is a deep pit under the gas boiler. The concrete floor the burner stands on is 20" below the level of the basement floor. Built of insulating firebrick which are laid flat to provide a wall 4½" thick, the firebox is enclosed in strong concrete 6" thick which extends up to the water leg of the boiler. Extending the concrete just as high around the burner pit gives an enclosure for the burner which is practically sound-proof when the heavy lid, shown in the diagram and made of fireproof sound-deadening material, is in place. A flame inspection door, not shown in the diagram, is on the side of the gas boiler. The door and door frame of this actually were made to be the flue door and frame for a coal boiler; the door opening is about 8" high and 14" wide. A block of insulating refractory material is used to prevent this door from becoming cherry red-hot, as it does without the protection when the burner runs steadily for three to four hours on a sub-zero morning. The burner runs about 20 minutes at a time. With a relatively small flame for the heating load, which gives low stack temperature and high efficiency as a result of reduced on-off loss, the burner runs 14 to 16 hours on a zero day. It is well-designed and gives a compact flame in which the oil and air are well-mixed. Crowding this into a smaller firebox than usual gives quiet burning; after the burner starts, a serviceman can not hear the flame light. Crowding the flame into the small, deep firebox also causes the insulat-

Gas Boiler - fired by oil



ing firebrick to reach a lemon-colored heat when the burner operates for 20-minutes. Because of the great amounts of fierce, radiant heat given by the luminous flame, and close adjustments which produce 10% to 11% CO_2, the gas boiler performs much livelier than it did when gas-fired, even though the stack temperature is about the same as with gas-firing.

Air, which of course must be admitted to the enclosed burner pit, enters through the type inlet shown in the diagram. Fiber tubes are imbedded in the concrete wall. Vacuum cleaner attachments are pressed into service to form the tubes and the elbows which give greater quietness than would be obtained with straight tubes. Four tubes, located side-by-side, are used on installations fired up to 1.5 gph to provide a total free-air area about four times the open area of the air damper at the burner blower inlet with this damper properly adjusted for efficient combustion at 1.5 gph.

Installation cost figures show that to fire these gas boilers in this practically silent fashion runs up the labor and material cost of each installation by about $30.

Servicemen handling noise complaints or ordered by the boss to produce special quietness on certain "show-room" installations, may find ideas on standard quieting methods in the accompanying chart with nine labels which deal with quieting procedures. Here are details:

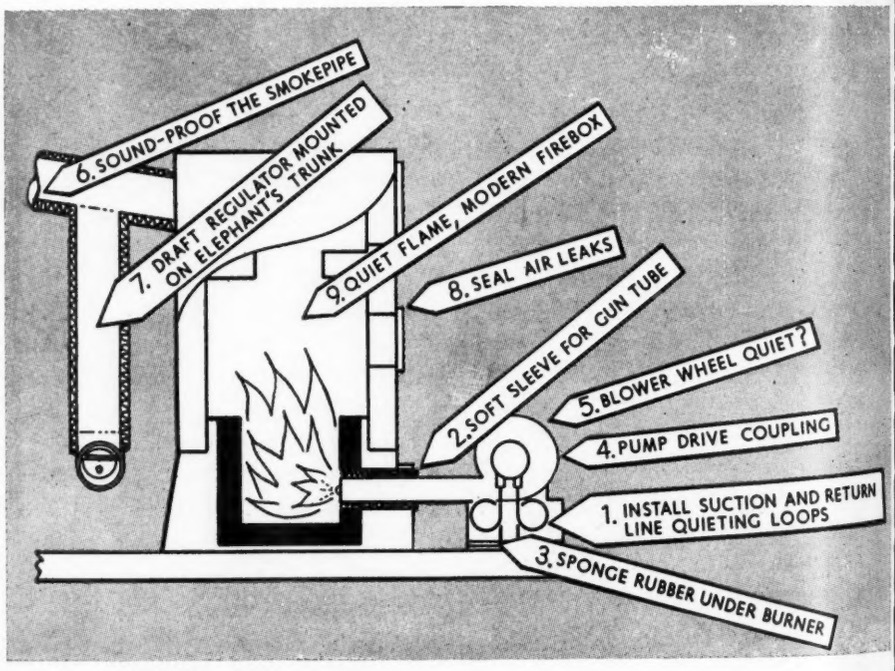
1. Install suction and return line quieting loops. To make such loops, coil neatly about an 18" length of ¼" OD copper tube. The loops are especially effective for burners which have return lines. They help eliminate pump hum and make it easier to aline the fuel unit or pump with the motor shaft, as there is more "give" and flexibility to the small tubing than to larger tubing or rigid pipe. Pipe strains on the pump or fuel unit are eliminated.

2. Soft sleeve for gun tube. Vibration from the burner often is transmitted to a boiler or furnace by a gun tube imbedded rigidly in the refractory material which forms the firebox. To avoid this, wrap the gun tube with a ½" thickness of tightly-packed rock wool before you install the burner, and wrap thin sheet metal (smokepipe sheet metal serves well) around the rock wool. Wire the metal in place, then install the burner as usual. When the firebox is finished and has been fired, you should be able to shift the burner about more or less freely because the rock wool serves as flexible packing. The job can be done in a way which avoids air leaks around the gun tube. A burner which has this feature may have to be shifted slightly one way or the other to arrive at maximum quietness. The feature is needed especially for warm air furnaces and winter air conditioners.

3. Sponge rubber under burner. A generous thickness of sponge rubber or cork slab under a burner often improves quietness by eliminating transmission of vibration to the concrete floor, which usually acts as a sounding board. You must "load" the resilient material properly; that is, use the proper number of square inches of it for the weight of the burner.

4. Pump drive coupling. Where exceptional quietness is needed, old burners frequently need new pump couplings or better alignment between the pump shaft and the motor shaft. Run one of the old burners with a standard-base motor and a bracket-mounted pump, and loosen the motor or pump slightly. Shift the motor or pump gently from one position to another until you arrive at maximum quietness. Shims often are needed under the motor mounting or between the pump bracket and the piece to which it is bolted. If the burners you service give much trouble caused by poorly aligned couplings, investigate the chances of obtaining couplings of better design to install as the permanent remedy for noise complaints.

5. Blower wheel quiet? Many servicemen who regularly find blower wheels clogged with dirt have not yet realized that dirt often throws the wheels out of balance and causes excessive noise. Fitting a brand-new blower wheel to an old burner, and taking the old wheel to the shop for thorough cleaning and perhaps repainting, is in order for certain burners about ten years' old. Don't overlook the possibility that a new blower wheel may be needed because the old one is hopelessly out of balance for one reason or another. Wheels have gotten out of balance just because of rough handling during shipment. Jabbing at the blades too vigorously to remove dirt has bent them out of true and made it necessary to replace the blower to arrive at quiet operation. Sometimes old burners with wheels poorly balanced from the start are encountered; installing well-built, nicely balanced blowers in these burners often gives greater smoothness of operation than the burners had when new.


6. SOUND-PROOF THE SMOKEPIPE
7. DRAFT REGULATOR MOUNTED ON ELEPHANT'S TRUNK
9. QUIET FLAME, MODERN FIREBOX
8. SEAL AIR LEAKS
2. SOFT SLEEVE FOR GUN TUBE
5. BLOWER WHEEL QUIET?
4. PUMP DRIVE COUPLING
1. INSTALL SUCTION AND RETURN LINE QUIETING LOOPS
3. SPONGE RUBBER UNDER BURNER

6. Sound-proof the smokepipe. Where an old burner gives a noisy flame which can not be quieted without redesigning the burner, the smokepipe often can be insulated to good advantage. A 2" thickness of asbestos cement generally is used. A more effective method of quieting the smokepipe is to punch holes in it with an icepick, wire on it a 2" thickness of roc

wool blanket material, then cover it with 2" of asbestos cement. The new composition smokepipe materials may be used to replace old metal smokepipes, and are extremely effective for quieting flame noises given off by the metal stacks.

7. *Draft regulator mounted on "elephant's trunk."* Where flame roar comes from a swinging-disc type draft regulator, install a tee facing down in the smokepipe, run a same-size smokepipe down from it and at the bottom fit an elbow, and install the draft regulator in the elbow. If you apply sound-deadening material to the regular smokepipe, apply it also to the "elephant's trunk."

8. *Seal air leaks.* Where burners have been installed and serviced properly, of course there are no large air leaks which permit flames to be heard clearly. Air leaks must be located and sealed if efficiencies are to be high and oil bills low. Still, on many noisy installations the flames can be seen without opening boiler or furnace doors. There are cracks around the doors and door frames and between the sections of cast-iron boilers. To arrive at quietness as well as fuel economy, then, use a candle to locate air leaks, and seal permanently any leaks you find.

9. *Quiet flame, modern firebox.* Flame noise is caused by oversize, poorly designed fireboxes, and by selecting the wrong materials for building fireboxes. To gain quietness, check over data on new-style materials for building fireboxes, if you have not done this before. Old installations may have to be fitted with new, properly designed fireboxes before annoying flame roar and pulsation are eliminated. To gain quiet burning, design your fireboxes to fit the flames closely and to have as little floor area for the gph rate as is practical for the burner model, and build the side walls higher than was the custom in the past. For smallest flames from pressure burners, side walls about 6" higher than the firebox floor give good results with many burners. Corbelling or slanting the upper part of the front wall and back wall of a small firebox often helps quietness. Avoid excessive distance between the nozzle and the firebox floor, for this may make the flame noisy. The nozzle should be so close to the firebox floor that having it one-half or one inch closer creates the risk of oil particles impinging on the floor and forming carbon there.

Today, most of the really well-engineered pressure burners are surprisingly quiet when the motors and pumps are operated without the flames burning. They are as quiet as modern domestic refrigerators which give no noise nuisance in kitchens. There is no reason for a well-built pressure burner to be any noisier than a refrigerator. Where a modern burner is far from silent on an actual installation, then, the noise comes from the flame. Installation and service work usually is to blame, for few modern pressure burners give excessive flame noise when installed and serviced properly. The dealer can pat himself on the back where the flame is so quiet that he has to open the flame observation door to find out if it is burning. (Unless the silent flame is a lucky accident, as sometimes happens.) By the same token, the dealer can blame his own installation and service department if his jobs are giving oilheating a local reputation for being noisy. The flames given by gas and coal are silent on most good installations. Oil flames can be silent, too, if burner dealers become determined to make an effort.

Convention Taking Shape; Show Space Breaks Records

PLANS FOR A 23rd Annual Convention are being completed by the committee of Oil Heat Institute which is shaping the first postwar oilheating show to be held at Philadelphia, April 23 to 27. Convention sessions will be held during show week, and activities are being planned to dovetail into each day in such a way as to interfere as little as possible with exposition attendance.

The show already had established a new high water mark for an oilheating exposition. At the middle of February 215 booths had been sold to 108 commercial exhibitors. The former high was in 1941 at Philadelphia when 183 spaces were sold, and in 1937 when 148 booths were occupied. The show, when it opens, is expected to be almost twice the size of any exposition held before 1937. Several good locations remain to be sold, according to the committee, though the list of exhibitors is growing almost daily.

Convention headquarters will be at the Ben Franklin Hotel, and most of the convention sessions will be held there. Directors of Oil Heat Institute, and the directors of the Distribution and Accessory Divisions will meet at the hotel on Monday before the opening of the show, and the annual meetings of the Distribution and Accessory Divisions will be held Tuesday morning, April 23.

The National Oil Heat Exposition will be opened at Commercial Museum with appropriate ceremonies at 1:30 Tuesday afternoon by President W. A. Matheson of Oil Heat Institute. The show will remain open until 10 p.m. Tuesday, and will be open from 1:30 to 10 p.m. each day through Saturday, except for Thursday evening, April 25, when the show will be closed to allow everybody to attend the Annual OHI Banquet.

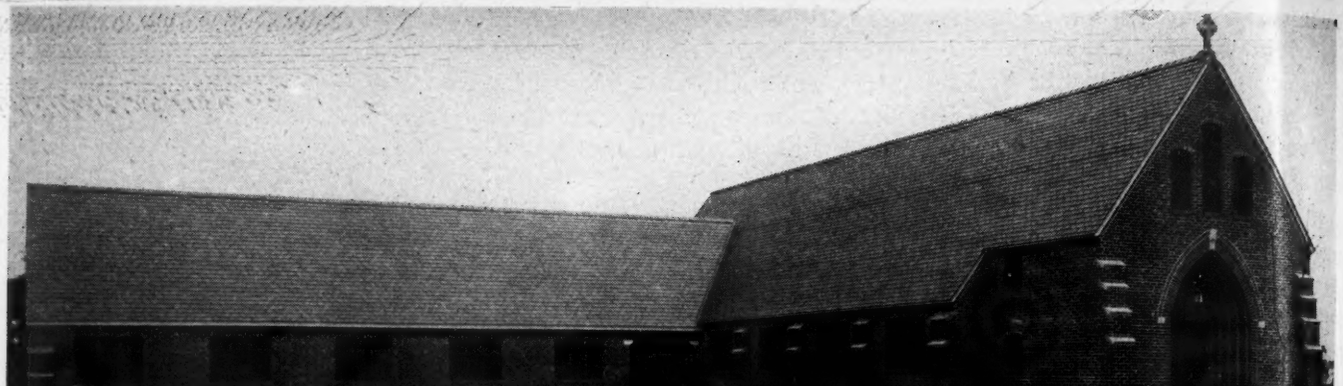
The Annual Meeting of the Institute will be held Wednesday morning at 10 o'clock at the Ben Franklin Hotel. The President will present his annual report and the other officers and committees will be heard, followed by the election of new directors. The new Board of Directors will meet at noon to elect officers and members of the Executive Committee. At 2 p.m. the new directors of the Distribution and Accessory Divisions will hold separate meetings and elect their officers.

Wednesday will be Ladies Day, and a local committee is arranging a program of entertainment.

Two forum sessions are being planned. The first, to be held on Thursday morning, will be a Retail Sales Session in charge of Carl R. Jonswold, chairman of the Distribution Division. A feature of the meeting will be a "sales clinic" or discussion panel. The panel of experts will be on hand to discuss sales and promotion problems, finance, new home construction and fueloil.

With the show closed on Thursday evening, the Annual OHI Banquet will be held at the Ben Franklin Hotel. Plans call for brief addresses by officers and

(*Continued on page 102*)



It's Warm in Church

Under-The-Floor Heating Solves Some Hard Problems

HELL'S FIRES lost some of their terror for people who used to shiver through services in the middle of a church, too far away from the radiators, or too far from the hot air register that was throwing a torrent of heat into the vaulted upper regions where nobody sat. The best the preacher could do left some hope of compensation for sin. But a remedy for many of the heating problems common to church structures and other occasionally-heated buildings has been found by the architect and engineer for a new church at Norfolk, Virginia. It is floor-type radiant heat.

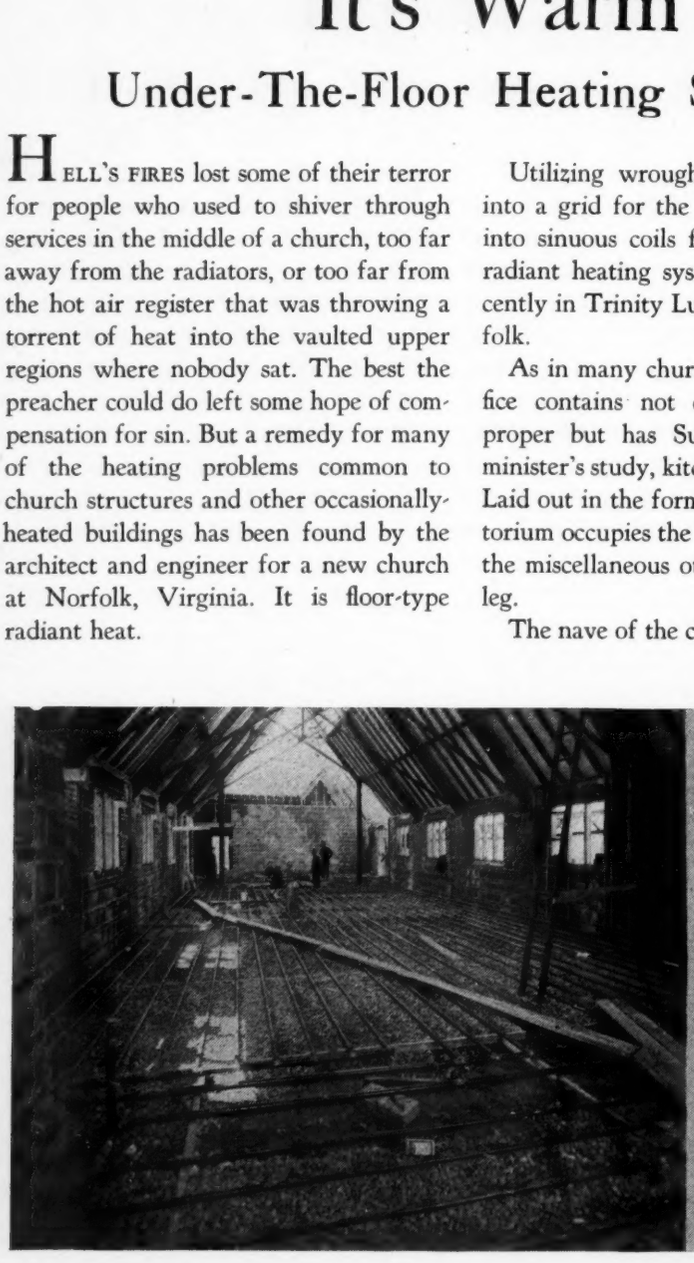
Utilizing wrought iron pipe, welded into a grid for the auditorium and bent into sinuous coils for smaller areas, the radiant heating system was installed recently in Trinity Lutheran Church, Norfolk.

As in many church buildings, this edifice contains not only the auditorium proper but has Sunday School rooms, minister's study, kitchen and social rooms. Laid out in the form of an "L," the auditorium occupies the base of the "L" while the miscellaneous other rooms are in the leg.

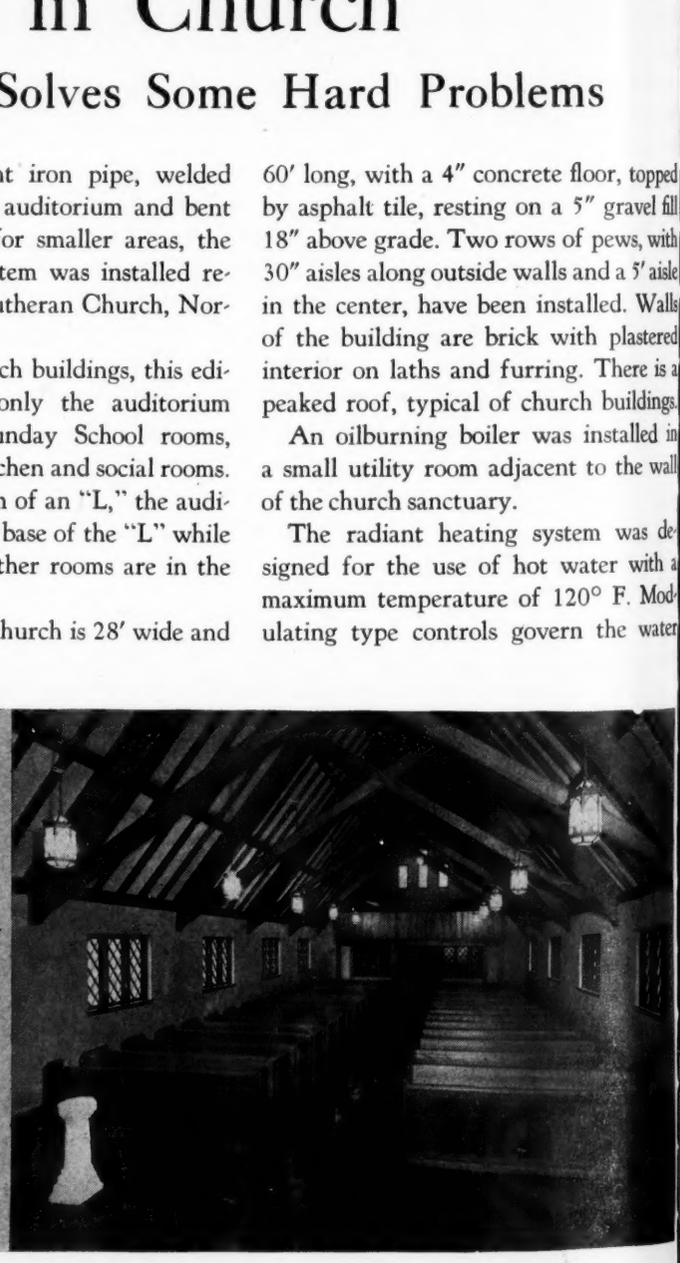
The nave of the church is 28′ wide and 60′ long, with a 4″ concrete floor, topped by asphalt tile, resting on a 5″ gravel fill 18″ above grade. Two rows of pews, with 30″ aisles along outside walls and a 5′ aisle in the center, have been installed. Walls of the building are brick with plastered interior on laths and furring. There is a peaked roof, typical of church buildings.

An oilburning boiler was installed in a small utility room adjacent to the wall of the church sanctuary.

The radiant heating system was designed for the use of hot water with a maximum temperature of 120° F. Modulating type controls govern the water



Radiant heating *installation in the church involved putting grids on gravel and covering with 4-in. concrete slab, topped by asphalt tile.*



Interior *of finished Trinity Lutheran Church at Norfolk which is radiantly heated by pipe grids buried under the floor. Nave of the church is shown above.*

temperature according to heat demands. Wall thermostats have been installed in each of the two heating zones into which the building has been divided—the church proper and the Sunday School section. This solves one of the most common heating problems of church buildings—non-occupancy during weekdays.

While the church proper generally is used only on Sunday, the class-room, study, and other areas of the adjoining structure are occupied frequently and therefore require continuous heat in contrast to the requirements of the church itself. It is possible therefore to maintain with simplicity a low temperature in the church during periods of non-occupancy and still provide sufficient heat continuously for the other rooms.

This naturally brings up another question—that of heating a church for services on Sunday mornings.

Conventional heating systems usually necessitate the initial starting of the heating plant many hours in advance of the service. This is especially the case with high-ceilinged interiors where the mass of upper air must be heated downward before heat actually is felt in the breathing zone. And still, the floor does not become conveniently warm.

With radiant heating, the situation is quite the reverse. Low temperature water in the wrought iron pipe grid embedded in the floor keeps the floor warm at all times, and when the circulating pump is activated by the thermostat being set up, additional hot water is forced through the grid. Radiant heat is not dependent upon convection air currents for distribution.

The principle of radiant heat is to control normal body heat losses by warming surrounding surfaces. Therefore, comfort conditions are achieved at much lower air temperatures than with ordinary heating systems. In Trinity Lutheran Church, it was very comfortable without extra clothing with the air temperature at 60°. At the time, the outdoor temperature was 36°.

It is not uncommon in conventionally heated church structures for some occupants, seated nearest radiators or hot air ducts, to become overheated while those farther away from the heat source are chilled. Radiant heating systems, concealed entirely in the floor, eliminate this condition because warmth is distributed uniformly. In fact, that is the one major difference between radiant and conventional heat—the ordinary systems rely upon small high temperature surfaces for the heating job and radiant systems provide comfort with large, low-temperature surfaces.

The balcony of the church, with a wood floor, is heated by a grid of radiant heating pipes. The temperature difference between the area near the floor and that at the ceiling is so slight with radiant heating systems—despite the height of the ceiling—that those persons occupying the balcony are not subjected to blasts of hot air as possibly would be the case with convected heat.

Cleanliness is another factor that has been described as being an advantage of radiant heat. Dirt streaks usually perceptible over exposed heating elements are completely eliminated. Since air movement is not disturbed by convection currents, there also are fewer dust precipitations. Occupants of radiant heated buildings have reported that walls and fixtures have remained clean for as long as eight years.

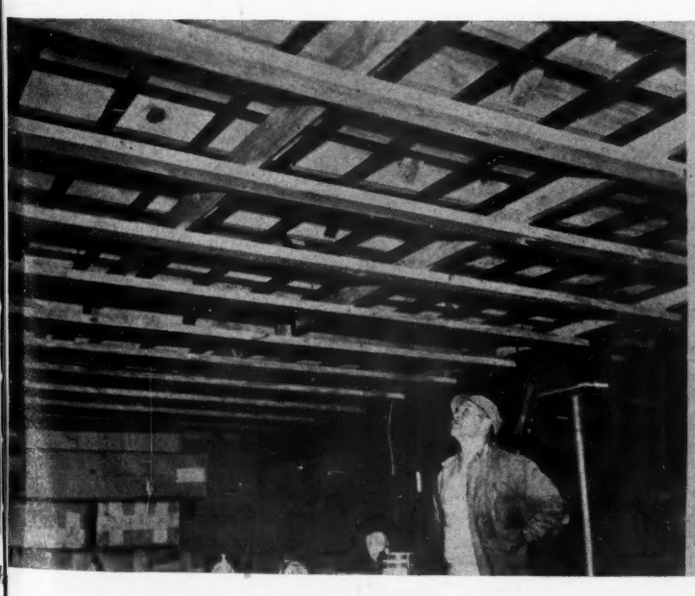
The Trinity Lutheran Church radiant heating system was designed by Bernard B. Spigel, architect, and Warren Carter, engineer, both of Norfolk. The heating contractor was C. J. Montagna, also of Norfolk. These men previously participated in the installation of a similar system in Redeemer Lutheran Church, Portsmouth, Va.

Wrought iron pipe was selected for this system, and for virtually all existing radiant heating systems, because its coefficient of expansion is approximately the same as concrete, and thus, this contributory hazard towards cracking and chipping of concrete and plaster is minimized.

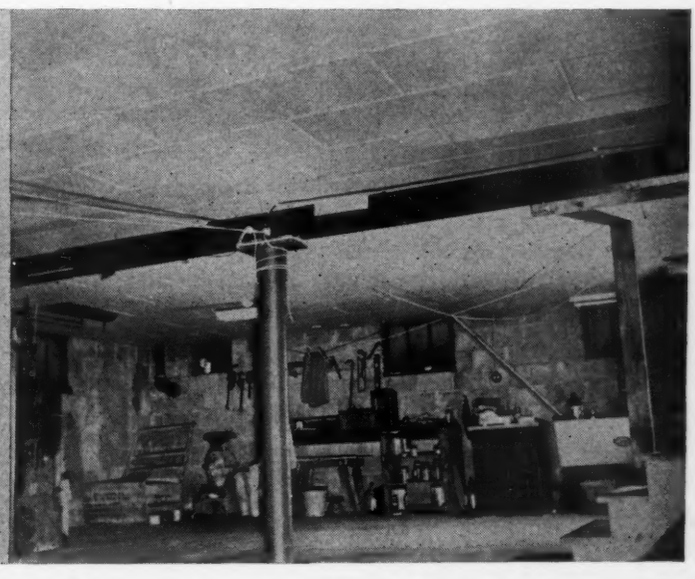
Coils Under Wood Floor

But it is not necessary to install radiant heating grids in concrete floors, as suggested by the heating of the church balcony. Coils may be installed under conventional hardwood floors in a basement ceiling if desired.

Such an installation recently was completed in the new home of Mr. and Mrs. Edward Kean at Cooperstown, Pa. They report the system has operated effectively



Radiant heating *pipes in this residence are suspended from 2 x 8 joists over which wood flooring has been laid.*



Semi-rigid *insulating board forms the basement ceiling, but sufficient heat is supplied to heat the basement.*

during this winter, maintaining maximum comfort with outside temperatures as low as 12° below zero.

A heat transfer coefficient of 1.75 was used in the design, just half that generally used in concrete floor slabs.

Pipes for the radiant system were hung from 2" x 8" joists on which conventional sub-flooring and hardwood finish flooring had been installed.

After the pipes had been positioned, two-by-fours were nailed on edge to the bottom of the joists, between the pipes. Other two-by-fours then were fastened

Residence *warmed by radiant coils in wood floors.*

flat to the bottom edges to form sleepers. This left an air space of 12" between the sub-flooring and the sleepers.

A layer of aluminum-coated insulating paper was tacked on top of the sleepers and another layer of the same material was placed on the bottom, creating a 2" air space between the insulation paper. Finally, ¾" semi-rigid insulation board was nailed to the underside of the sleepers in direct contact with the aluminum-coated paper. This formed a solid ceiling for the basement.

Mean water temperature employed is 140° F.

Circulation of hot water through the 1" and 1¼" wrought iron pipe grids and sinuous coils is insured by a small circulator on the return main. Circulator action is regulated by an ordinary room thermostat.

Comfort conditions in the individual rooms of the house are regulated by valves on supply lines leading to the heating units under the floor of each room. Therefore, if a lower temperature is desired in one room, the balance valve can be adjusted accordingly and need not be touched again during the entire season.

The radiant heating element under the living room floor is a grid, with 1½" header pipes and 1¼" grid pipes spaced on 11" centers. There is a similar arrangement for the first floor bedroom. Sinuous coil elements are used for the kitchen and other rooms. The supply main is run around the outside perimeter of the house so that the floor areas nearest the exterior walls will have the benefit of the hottest water. The return main is positioned so that it heats the hallways.

Is The Minneapolis Market Sunk?

QUITE OFTEN IN THE last few years some reader of FUELOIL & OIL HEAT has proposed that the editors run a series of articles on the gas competitive situation in the Midwest, specifically pointing out how the oilheating industry should combat cheap natural gas. Little has been done to find the solution, obviously because the answer is elusive.

Year-end installation totals in some of the cities make it clear that we, as an industry, may as well abandon further effort in a handful of spots and let the Phillistines take over, or else we should start now putting special effort into those markets to revive them. Among large cities the weakest for oilheating at present are Cleveland, Cincinnati, St. Louis and Minneapolis.

Nationally the oilheating industry is prosperous. Manufacturers of equipment have unfilled orders piled up so high that a few could blow into the waste basket and not be missed. Why worry about who gets the burners . . . it's all the same money.

For some reason the oilheating dealers in these stricken cities won't agree that the situation is hopeless. They have lifetime investments in their businesses, the only businesses they know, and have little inclination to sell out or move away. When a business is difficult the owner pours his whole affection into it, like parents with a crippled child.

Veterans in the oilheating industry at one time looked on Minneapolis as one of the brightest tacks on the sales manager's map. Some of the early day burner manufacturers from Minneapolis were among the most impressive at the national conventions of the industry . . . such as Uncle Charlie Chalmers, one of the only two men ever voted an honorary lifetime membership in OHI.

Now that we have the figures and know that in 1945 the city had 5,385 gas installations to 729 oilburners, somewhere along the line we have slipped. The table shows competitive installations since 1939.

Minneapolis Installations

Year	*Gas*	*Oil*
1939	3411	1366
1940	3355	1507
1941	3737	1180
1942	1032	368
1943	41	107
1944	1701	226
1945	5385	729
Jan. 1946	793	50

Oilheating's decline in Minneapolis followed about the same pattern as in the other three cities mentioned. Oilburner men were prosperous, their business expanding; gas was relatively high priced. Then the gas utility started a drive for home heating . . . little noticed at first because it takes time for a new idea to make an impression. After two or three years of persistent, high pressure promotion and door-to-door selling, it became clear that gas was entrenched . . . and oilburner sales declined. When that stage is reached in any city, it's too late for oilburner dealers to be able to put large money into city-wide promotion, for their shrinking bank accounts won't stand it.

Gas did not push oil out of first place because it had any peculiar merits . . . it was simply because there was only one company in the city selling it, a company with resources and imagination enough to spend heavily for results.

One of the hardest lessons for any business man or group of men to learn is that big promotional dollars should be spent when an industry is growing and prosperous. That is defensive selling; prevents the competitive industry from getting started.

If Minneapolis gas rates were high when the sales drive started several years ago, that is not true today. There have been numerous rate reductions, three in the past eighteen months. The last rate reduction was announced on the same day that oil prices went up another half cent in late January.

Gas for central heating now sells for 6.7¢ a therm (100,000 Btu's). No. 2 fuel-oil now sells for 8.6¢ a gallon (140,000 Btu's). Thus on a straight Btu comparison gas is still about 8% more costly than oil. But if we consider average heating plant efficiencies, as in the table published on page 70 of the February issue of FUEL-OIL & OIL HEAT (compiled by the Small Homes Council, University of Illinois) we see that in actual heating value gas at 6.7¢ is equivalent to oil in a conversion burner at 8.2¢ or oil in a complete unit at 9.3¢.

Minneapolis homeowners with conversion oilburners are spending about 5% more for heat than if they had gas; those with oilfired units save about 8% compared to gas. But since the large majority of oil jobs are conversion burners, oilheating is taking a drubbing on fuel costs.

Moreover, gas service is free, except for replacement parts, which are charged. The gas utility has just announced in local newspapers that it now has service cars constantly cruising with two-way radios. On a service call the fix-it man appears in a matter of minutes.

Need Help of All

Perhaps we, as an industry, should give up Minneapolis, let her sink . . . too many leaks in the boat. Again, perhaps we shouldn't. Oilheating men as a rule don't admit it when they're licked. If we're not going to throw in the sponge, what can be done? Nothing will be done unless everybody concerned recognizes the problem and is willing to help, in pure self interest. Here are some suggestions . . . you can think of many more:

1. *Major oil companies:* Cut the price on distillate heating oil to 8¢ or lower. Then we can truthfully say that oilheating costs less than gas.

2. *Oilburner manufacturers:* Temporarily favor Minneapolis in shipping burners, so that every sale can be promptly installed. So few are required that other cities will not be hurt.

3. *Oilburner dealers:* Perfect your local organization; improve your service habits; see that every present oilheating user is well satisfied; raise a fund, however small, for public relations work to bring all possible publicity to your activities.

4. *Fueloil distributors:* Get all possible customers onto automatic deliveries, using some method to avoid having to disturb the householder when making deliveries; ask your suppliers to spend money to promote oilheating in Minneapolis, either individually or collectively, also contributing yourselves to such a fund; (recall that the burner dealers have built most of your present gallonage for you, but they now no longer have much available for promotion).

Perhaps placing special emphasis on a particular market, by all interested groups, is unorthodox; it hasn't been our industry's practice. But the gas industry has always worked as a team when there was a tough nut to crack. Notice that the 5,385 gas jobs last year represented 9.4% of the gas equipment industry's total deliveries, and the 1,701 installed in 1944 were 8.3% of all gas equipment made that year. Minneapolis seemed important to all concerned . . . a market being captured.

Cleveland, Cincinnati, St. Louis and Minneapolis will always be good gas towns, but everyone doesn't want gas—many are afraid of it—any well planned effort will swing many present coal users to oil if our crowd will put its house in order and convincingly invite them in.

Revised Standard Issued For Pot Type Furnace Units

A REVISED Commercial Standard for warm air furnaces equipped with vaporizing pot type oilburners was issued on February 12 as CS 104-46 to become effective for new production from March 15, 1946. This replaces CS (Emergency) 104-43 which has been effective since 1943. This standard is provided "as a basis for certification of the quality and performance of warm air furnaces equipped with pot type oilburners . . . for the guidance of manufacturers, distributors, installers, contractors and purchasers."

The code sets up a detailed procedure for testing furnaces, and standards of performance. Significant paragraphs from the standard follow.

1.1 *Safety.*—The furnace and burner shall meet the safety requirements of the Underwriters' Laboratories, Inc., and the National Board of Fire Underwriters. Presence on the furnace of the label of Underwriters' Laboratories, Inc., shall be accepted as evidence of compliance with these safety requirements for the application for which the equipment is listed.

1.3 *Dependability.*—The furnace and burner shall be capable of functioning uniformly and reliably when installed and adjusted in accordance with the manufacturer's instructions.

2.2 *Oilburners* shall be of the vaporizing pot type, constructed of steel, not lighter than 20 gage or other suitable material of equal resistance to heat, corrosion, and fuel leakage.

2.3 *Combustion chambers,* radiating drums and/or other surfaces exposed to the direct heat of the burner flame shall be constructed of sheet steel not lighter than 20 gage, or other suitable material. Combustion chambers shall be fitted with doors or equivalent means for permitting access to interior surfaces of the burner and other surfaces as required for lighting, cleaning, servicing, etc.

2.86 *Air filters* when used must be so located that no point on the filter will reach a temperature in excess of 90°F above room temperature when the furnace is being operated at maximum output with the forced-air equipment either operating or not operating. Average velocity through filters shall not exceed 300 fpm. Filter area shall be based on nominal external dimensions.

3.31 The furnace shall be capable of delivering heat as rated by the manufacturer when tested as outlined in sections 4 and 5. The temperature of the metal of the heating surfaces shall not exceed 930° F above inlet air temperature under conditions of the rating test as specified in Sections 4 and 5, unless constructed of heat-resisting material suitable for the temperature encountered.

3.41 The blower in a forced-air furnace shall be capable of delivering the full rated output of the furnace with an air-temperature rise of 90°F (plus or minus 10°F) when tested as outlined in section 4 against a static pressure in the connected duct system, external to the casing, as shown in section 4. (*Cont. next page*)

3.51 When tested at manufacturer's recommended draft and at full rated output as outlined in sections 4 and 5, furnaces shall be capable of operating at the following efficiencies:

(a) 72-percent gross efficiency on forced-air furnaces equipped with natural- or mechanical-draft burners.

(b) 70-percent gross efficiency on gravity furnaces equipped with either natural- or mechanical-draft burners.

Forced Air Furnace Tests

4.51 The tests shall be run under the following specified conditions:

(a) The furnace shall be operated under rated test conditions until equilibrium conditions of air temperatures, fuel-flow rate and flue-gas temperature have been established.

(b) The average draft during the test shall be that recommended by the manufacturer for high fire operation, but not to exceed 0.06-in. water column for natural draft, not to exceed 0.04 in. for mechanical-draft burners, and not less than 0.02-in. water column for either. The maximum fluctuation in draft during the test shall not exceed plus or minus 0.005 in. water column.

(c) The fuel-feed rate shall be such that the temperature of the outlet air exceeds the temperature of the inlet air by 90°F (plus or minus 10°F) but not above the rate at which the amount of smoke in the flue gases reaches the maximum allowable by the ICHAM smoke test (10-percent reading after a 20-min. exposure).

(d) The observed flue-gas temperature at maximum-output rating shall not be less than 300°F nor more than 880°F above laboratory temperature for natural-draft burners, nor more than 780°F above laboratory temperature for mechanical-draft burners, and the percentage of CO_2 in the stack gases shall be not less than 10.

(e) The above tests shall be conducted at the maximum and minimum ratings specified by the manufacturer.

Gravity Furnace Tests

5.51 The tests shall be run under the following specified conditions:

(a) The furnace shall be operated under rated test conditions until equilibrium conditions of air temperatures, fuel flow rate, and flue-gas temperature have been established.

(b) The average draft during the test shall be that recommended by the manufacturer for high fire operation, but not to exceed 0.06 in. water column and not less than 0.02 in. water column. The maximum fluctuation in draft during the test shall not exceed plus or minus 0.005 in. water column.

(c) The fuel feed rate shall be the maximum recommended by the manufacturer but

(1) not above that rate at which the temperature of the air at any outlet exceeds the temperature of the inlet air by 160°F,

(2) not above the rate at which the amount of smoke in the flue gases reached the maximum allowable by ICHAM smoke test (10-percent reading after 20-min. exposure).

(d) The temperature of the air at any warm air outlet shall not vary more than 30°F from the average of the discharge temperature observed at all of the warm-air outlets.

(e) The observed flue-gas temperature at maximum-output rating shall be not less than 300°F nor more than 920°F above laboratory temperature, and the percentage of CO_2 in the stack gases shall be not less than 10.

◈

Furnace Unit Ceiling Increased with Burners

CEILING PRICES of oilfired warm air furnace units were increased 12.5% on January 9, effective January 14, at the same time that oilburner price ceilings were increased 9%. News of the increase has not been published, due to a misinterpretation of the order, which appeared to cover only gasfired furnace units. The increase was allowed by Amendment 4 to Order 48 of MPR 591. Oilburner ceilings were raised by Amendment 3.

Amendment 4 says: "The maximum price for sales by any manufacturer of gas-fired and liquefied petroleum-fired furnaces and unit heaters and repair and service parts therefor shall be his price for the item to each class of purchaser in effect on October 1, 1941, increased by 12.5 per cent." The phrase "liquefied petroleum" following reference to gas was interpreted as meaning liquified petroleum gas (bottled gas) rather than fueloil. Washington officials say this phrasing covers fueloil as well as bottled gas.

Unit Heaters, as used in the order refers to all types of unit heaters, not only to gasfired equipment. The order defines unit heaters as "any unit heater using gas, oil, steam or hot water as the fuel."

Under this order distributors may add only the dollars-and-cents increase in their price which the manufacturer charges them. Installing dealers may add the same markup to the equipment which they used in 1941.

◈

Oil Reserves Up After Record Year

DESPITE RECORD PRODUCTION of 1,736,717,000 barrels of crude oil in 1945, the proved oil reserves of the United States showed a good gain during the year, the Committee on Petroleum Reserves of the American Petroleum Institute has reported.

Total proved reserves as of December 31, 1945, amounted to 20,826,813,000 barrels, the Committee reported. This is an increase of 373,582,000 barrels over December 31, 1944. New pools discovered in 1945 accounted for 419,984,000 barrels, with extensions of existing pools and revision of previous estimates totaling 1,690,315,000 barrels.

In addition to the record production of crude oil, 111,250,000 barrels of natural gasoline and 4,820 billion cubic feet of natural gas were produced in 1945. Expressed as the equivalent of barrels, the total petroleum production of the U. S. amounted to 2,650,000,000 barrels.

Texas again headed the parade of states in total proved reserves, production in 1945 and new pools added during the year. California was second in these same catagories and Louisiana third.

◈

Bureau of Mines Acquires Another Synthetic Oil Facility

TO UTILIZE GERMAN CHEMICAL secrets relating to the synthetic production of oil from coal the Bureau of Mines has taken over the Missouri Ordnance Works, a plant that made 180 tons of ammonia a day during the war. Costing $17,500,000, the plant is about 100 miles north of St. Louis on the Mississippi River, centrally located for coal supplies. When converted, some two years hence, the plant will have capacity of 200 barrels a day.

Those Cat-Cracked Oils

Thirty Laboratory Reports Spot Some of the Difficulties

RESULTS of tests which have been run during the last year and a half with various types of oilburners using eleven blends of catalytic heating oils have been reported to Technical Committee E of the American Society for Testing Materials. The burning tests were carried on by more than 30 laboratories under Frank H. Faust, chairman of Section 2 of the committee.

M. A. Powers, chairman of Technical Committee E, has released the report through G. T. Kaufman, Technical Secretary of Oil Heat Institute. It covers tests on space heaters with vaporizing pot-type burners in furnaces, floor furnaces and pot-type conversion burners; high pressure, low pressure and wall flame oilburners for central heating installation.

Fueloils used were blends of catalytic and straight run distillates. The No. 1 reference oil was 25% catalytic and 75% straight run distillate, and the second fuel was all catalytic. Blend A was 100% No. 1 reference oil; Blend B was 90% No. 1 and 10% No. 2 reference oil (not to be confused with Commercial Standard No. 1 and No. 2 fueloils); Blend C was 80% No. 1 and 20% No. 2, and so on in 10% exchanges to Blend K which was 100% catalytic cracked distillate.

Pot-Type Space Heaters

Of the eight laboratories which conducted tests on space heaters equipped with vaporizing pot type burners, seven disapproved, without qualification, all blends. The eighth neither approved nor disapproved them, but reported only small deposits of carbon in the pot and on the heating surfaces at the conclusion of a 250-hour cycling test. Typical are the experiences of four of the laboratories:

Code No. 3 Laboratory conducted tests on a space heater which delivered 53,917 BTU on conventional No. 1 fueloil. An output of only 23,763 BTU was obtained when using blend K reference oil, and 49,452 BTU when using blend A reference oil. These represent reductions in capacity of approximately 56% when using blend K and about 8½% when using blend A.

A 250-hour cycling test of this unit on ASTM blend A resulted in a deposit of hard carbon on the pot bottom and sides. This deposit was very much above normal and was beginning to plug up the inlet.

This laboratory concludes that ASTM reference burner fueloils cannot be used satisfactorily on existing oil burning space heaters for the following reasons: (1) The heat output of the heaters is less than that for which they were designed. (2) The excessive carbon deposits would soon plug up the oil inlet resulting in excessive service being required.

Code No. 4 Laboratory conducted comparative tests on a space heater using reference oil blend A, and No. 1 conventional fueloil. As a result of these tests, they consider the ASTM reference oils unsatisfactory in all blends. Blend A results in a reduction in gross BTU output and a marked decrease in the high fire and low fire ratio.

On a 250-hour cycling test using blend A carbon deposits attained a weight of 3⅝ ounces on the pot bottom and 1⅜ ounces on the heating surface.

This laboratory disapproved the ASTM reference oils in all blends for vaporizing equipment.

Code No. 19 Laboratory conducted tests on a space heater but did not complete them inasmuch as they found blend A to be unsatisfactory. Additional comment is as follows: The oil is too heavy and would require different control valves than this manufacturer has used heretofore. Carbon conditions are prevalent but the greatest drawback is the reduced input over their previous rate. At the conclusion of 144 hours of an intended 250 cycling test an accumulation of 11 ounces of carbon and soot was removed from the pot bottom. The manufacturer comments further that the reference oils: (1) reduce the oil flow through their valves approximately 10%; (2) require reducing the oil input rate 10 to 15% in order to meet the 6% smoke test at .06" draft; (3) result in carbon deposits around oil inlet sufficient to stop flow after 240 hours of pilot operation.

This manufacturer disapproves the reference oils in all blends for vaporizing equipment.

Code No. 32 Laboratory conducted a test on a 14" burner using ASTM blend B and a comparative test using prewar grade No. 1 fuel. They report that at the conclusion of the 250-hour cycling test of blend B there were slight deposits of carbon and soot on the pot bottom and pot sidewalls—a total of .534 pound in the entire burner, and a total of .0015 pound on the heating surfaces of the space heater. On the parallel test with prewar No. 1 oil, carbon and soot deposits throughout were negligible. In a combustion test at full fire the laboratory reports unsatisfactory results for these reasons: (1) more hard carbon formation than with prewar No. 1 which is believed to be a progressive accumulation, (2) more pulsation.

With the exception of the comment on the full fire combustion test the laboratory makes no remarks in conclusion. They were, however, able to conduct a complete 250-hour cycling test using blend B with only small accumulations of carbon and soot resulting.

Pot Furnaces and Conversions

Four laboratories tested vaporizing pot burners in furnace burner units, one tested floor furnaces, one ran an additional test on a conversion pot burner, and one tested a conversion burner alone. The following laboratory reports are typical:

Code No. 1 Laboratory conducted tests on two sizes of water heater units equipped with vaporizing pot type burners, (not the units on which the schedule called for them to conduct tests) and on a warm air furnace equipped with a similar burner. Their comment on the tests of the burner in the furnace is that only one test could be considered satisfactory and that was with the use of No. 1 oil

(blend A) at reduced input. Because of this reduced input no cycling test was conducted.

In the test of a water heater with an 8" burner the combustion tests using both blend A and blend K were satisfactory, but before the conclusion of the 250-hour cycling test the smoke pipe had completely filled with soot and the test had to be discontinued.

With a 10" burner in a water heater combustion tests with both blend A and blend K were satisfactory except for a reduction of .1% CO_2 with blend A. A 250-hour cycling test with this unit on blend A resulted in a 25% closing of the smoke pipe with soot. The laboratory estimated that under these conditions the unit would require servicing about every 60 days.

This laboratory believes that the ICHAM smoke meter does not give a true indication of the amount of soot that may be expected to accumulate during service. They think the cycling tests are more indicative of the results that may be expected, but that even these may fail to give a true picture since the major soot deposits may be in the smoke pipe. They believe the Diesel Index of a fuel to be indicative of its burning characteristics.

Code No. 10 Laboratory conducted tests on vaporizing pot type burners in furnace-burner combinations using ASTM blends A, F and K, and in combustion tests of short duration report satisfactory results. In a 250-hour cycling test using blend A in a 12" burner carbon deposits totaling 13 ounces were produced in the pot bottom and negligible quantities on the pot sidewalls and furnace heating surfaces.

Blend F likewise produced satisfactory results in a short duration combustion test, and quite similar results to those produced by blend A in the 250-hour cycling test, except that the carbon deposit in the pot bottom increased to 16 ounces.

Blend K produced unsatisfactory results in a short duration combustion test because of an excessive amount of residual carbon in the burner at the end of the test. The 250-hour cycling test using blend K produced 24 ounces of carbon in the pot bottom. This was increasing.

The laboraory's concluding .statement is that tests on blend K were satisfactory generally although the accumulated residual carbon was rather heavy.

Code No. 33 Laboratory conducted tests on a floor furnace fitted wih a vaporizing pot type burner, as well as on a conversion pot type burner, using several grades of prewar oil as well as blends A and K of ASTM reference oil. The results obtained have been reported as satisfactory in all instances. The 250-hour cycling test on blend K produced no carbon and soot deposits on the pot bottom, a deposit on the pot sidewalls of 1.3 ounces which is described as "soft, dull black, only what was necessary to insulate the pot for proper operation." There were no deposits on the heating surfaces.

This laboratory draws the following conclusions: (1) The burner will operate entirely satisfactorily on ASTM blend K fueloil.. (2) Excessive carbon does not form. (3) The only difference between the burning of the present oil and the catalytic oil is a slight reduction in capacity. The unit when burning at a rate producing 6% on the ICHAM smoke meter burns 51,800 BTU of catalytic oil against 56,500 BTU of present oil, a reduction of 9%.

No comment is made as to why this laboratory was able to burn blend K in a vaporizing type of burner, but the comment has been made by others that the burner in which the tests were run is of a type in which the vaporizing of the oil takes place at low temperature, so that at no time is the oil, in either the liquid or the vapor state, exposed to a temperature which will crack it, until it has reached the burning zone. In addition the burner is equipped with a fully automatic electric ignition system and can be operated only on full fire. It is a strictly on-and-off type of burner which has neither low fire nor pilot fire positions. It was operated entirely on high fire during the cycling test, which may or may not have influenced the results obtained as regards carbon deposits, etc.

This laboratory, inasmuch as they have approved blend K, may be assumed to have approved the reference oils in all blends.

High and Low Pressure and Wall Flame

There were eleven laboratories in this group of which eight conducted tests on high pressure burners, four conducted tests on wall flame burners, and one co ducted tests on a low pressure burne In the high pressure group comment were made that smoking prevailed wit the catalytic oils for the first five to seve minutes after starting which will be disadvantage with burners required to op erate on frequent short cycles. In tw cases a laboratory redesigned the burn firing head in order to obtain results co sidered satisfactory. Reports that carbo collected on the helix of the stack switc were also made. In one instance the labo atory comments that at a firing rate one-half gallon per hour, 10% CO_2 an smoke-free combustion cannot be main tained with K and I blends.

Some Need Adjustment

Of the four laboratories which co ducted tests on wall flame burners, on reported complete satisfaction with th catalytic oils, one stated that the burn er flame rim had to be modified for satis factory results to be obtained, a third sai that a considerable quantity of carbo collected in the ignition groove but di not impair operating characteristics, an the fourth reported satisfactory result during the 250-hour cycling test but co sidered the ignition test to be unsatisfac tory because of slow igniting.

The single laboratory which conducte a cycling test on a low pressure burne reported completely satisfactory result but commented that it might prove ad visable to operate at 8 or 9% CO_2 in stead of 10% or above.

Code No. 2 Laboratory conducted test on a high pressure type burner as ar ranged for use in a furnace-burner combi nation, and as arranged for a conversio installation. In the first instance the firing rate was one gallon per hour and in the latter instance 2.5 gallons per hour. In the normal conversion application they are of the opinion that the reference oils blends A and K, would perform with a reasonable degree of satisfaction and would not cause burners to require any additional service over that of the oil which were used prior to the war.

They believe, however, that neither blend A nor blend K will be satisfactory when used in burners which will be forced to operate with a quite frequent and very short operating cycle which, it is their understanding, will be the case

(*Continued on page 62*)

for 1946.....

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when heating equipment is installed in accordance with the code newly formulated by the National Warm Air Heating and Air Conditioning Association. They noticed on both oil blends that the flame did not clear up properly until there had been operating periods ranging in length from 5 to 7 minutes. It was their observation that smoking conditions were such, for 5 to 7 minutes after starting, that an undue amount of carbon would be built up in the heat exchanger and on the helix of the stack switch.

Code No. 5 Laboratory conducted short duration combustion tests on two high pressure conversion type burners at firing rates of ½ gallon, 3 gallons, and 6 gallons per hour, using various blends of ASTM reference oils; also 250-hour cycling tests on a similar burner equipped with a ½ gallon per hour nozzle using ASTM blend H oil, and a larger burner equipped with a 6 gallon nozzle using blend K oil. The conclusions drawn by the laboratory from these tests are that, in the case of the ½ gallon nozzle, K and I blends are unsatisfactory if 10% CO_2 is to be maintained, due to the high smoke reading during the first 5 to 10 minutes after start. This high smoke reading during the first few minutes of the running cycle was attributed to lack of sufficient draft, inadequate air supply, and too low a combustion chamber temperature.

During the 250-hour cycling test on the ½ gallon nozzle a clean steel rod placed in the boiler outlet at the start of the test was coated at the finish with a layer of soft soot measuring .008" thick. A similar steel rod placed in the boiler outlet during the 6 gallon 250-hour cycling test accumulated a layer of soft soot .011" thick.

Modifies Burners

Code No. 17 Laboratory conducted tests on high pressure and wall flame conversion burners and reported that both were able to satisfactorily burn blend K reference oil after modifications had been made in the burners.

These modifications, in the case of the rotary burner, consisted of placing a steel band behind the flame rim ½" away from the boiler wall. The standard grills were then fastened to the back band which raised them approximately 2" above their normal position. The end result of this change was reported to be a lowering of the temperature in the vaporizing zone which prevented the oil from cracking and smoking.

The high pressure burner was modified as follows: (1) The standard air deflector was replaced with one having deflecting blades with less pitch. (2) An adjustable cylindrical air tube was installed inside the regular air tube as a means of improving the air-fuel mixture. (3) The 5" fan with which the burner was originally equipped was replaced with a 6" fan.

It is reported that before these modifications were made at a blend composed of 30% No. 2 and 70% No. 1 reference oil (blend D) appeared to be the heaviest oil the wall flame burner could use without the formation of an excessive amount of carbon during the 250-hour cycling test. In the case of the high pressure burner the modification not only improved the combustion efficiency but also eliminated boiler pulsations.

Code No. 23 Laboratory conducted a test on a conversion type wall flame burner and reports results to be satisfactory. In summarizing and concluding its report the laboratory says that, with regard to the combustion test, ASTM blend K oil can be safely said to be a satisfactory fuel for this unit. With regard to the starting test, which was conducted under extremely unfavorable conditions, blend K passed all tests without difficulty. With reference to the 250-hour cycling test it was said that the formation of a considerable quantity of carbon about the ignition groove does not appear to impair the operating characteristics of the burner. They doubt that this carbon would ever interfere with ignition.

The final conclusion is that, taking all factors into consideration it can be safely said that blend K burned satiesfactorily in the unit in which it was tested.

Code No. 29 Laboratory conducted a test on a wall flame conversion type burner using ASTM blends A, F, and K oil. With blend K at a 2 gallon per hour firing rate, it was reported that the flame jumped off the firing ring. A slight readjustment corrected this condition and thereafter a series of short duration tests were conducted to see just what performance would be obtained with the various oil blends. The results obtained were for the most part satisfactory. The results obtained during the 250-hour cycling test with blend K were a deposit of 262 grams of carbon in the combustion chamber, which, it was reported, was caused by oil splashing, when it struck the vaporizing ring, onto the cold walls of the boiler where it would not burn completely. In the flue passages 93 grams, in an even fluffy layer about 1/64" thick, were produced. A negligible quantity was produced in the burner.

The laboratory considers the results obtained in the ignition test to be unsatisfactory because of slow ignition which results in a very large fire momentarily when the flame has spread around the entire ring.

Code No. 30 Laboratory conducted tests on a high pressure burner burning ¾ of a gallon per hour in a boiler-burner unit, and a low pressure burner burning 5 gallons per hour in a boiler-burner unit. They report that their tests indicate that this quantity of oil can be successfully burned in a standard high pressure burner using either blend A or blend K oil. A proviso is that the air quantity admitted be increased in proportion to the increase in the BTU content of the fuel. They comment that the smoking tendency is only slightly more marked with K blend than with A blend. Additional comments are: (1) the fire volume is slightly increased, but not enough to affect the combustion chamber design; (2) ignition is satisfactory at reduced voltage and low temperature; (3) the nozzle must be kept clean by proper burner design; (4) special fueloil filters may be necessary; (5) because of practical field considerations, it may prove advisable to operate at 8 or 9% CO_2 instead of 10% or above.

In commenting upon the 5 gallon per hour low pressure test, it was stated that the use of all clean fuels not requiring heating will give good performance with this type and capacity of burner.

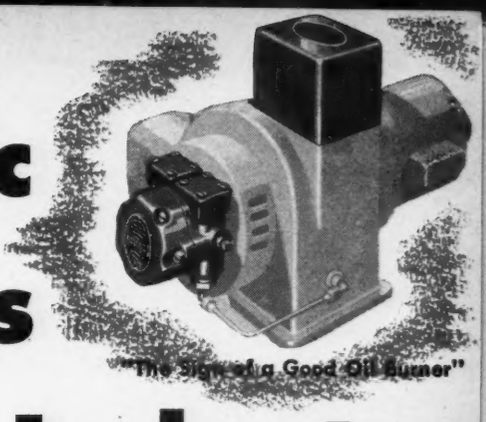
Conclusions

The conclusions of Section 2 as regards the suitability of ASTM reference fueloils Nos. 1 and 2 are as follows:

The majority of the laboratories reported that neither No. 1 nor No. 2 ASTM reference fueloils, nor blends thereof, are satisfactory for vaporizing pot type oil burning equipment. This is

(*Continued on page 66*)

...Webster Electric and Transformers of the Oil Burner Industry



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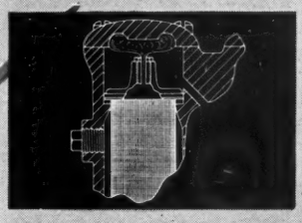

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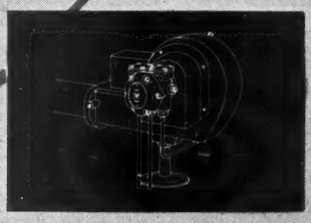

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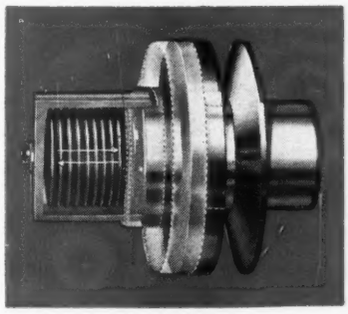

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Webster Electric Ignition Transformers are especially built to meet the exacting requirements of oil burner service. Their reputation for efficient performance and reliability has been earned through the use of highest quality materials, precise workmanship, and sound, balanced design developed through thirty years of research and manufacture. Among their features are:

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due principally to the following conditions:

1. Excessive carbonization at the oil inlet to the pot.
2. Carbon and soot deposits in the pot and on the secondary surfaces.
3. A reduction in the maximum BTU output capacity of the burner.

They also reported that under continuous operating conditions these fuels can be burned as required by the Commercial Standards as regards draft, CO_2, and smoke with a reduction in output varying from 5 to 25 per cent. A reduction of the oil input rate improves the soot and carbonization conditions, but the deposits should be regarded as cumulative, or progressively increasing, with increased hours of operation.

The majority of the laboratories reported that Nos. 1 and 2 ASTM reference fueloils and blends thereof can be burned satisfactorily in high pressure, low pressure, and wall flame rotary burners with no modifications or with minor modifications of burner or combustion chamber design, and with increased air flow to compensate for the higher heat content of the fuel. Existing installations of rotary wall flame burners may require some changes in hearth design to burn blend K (No. 2) oil. One laboratory questioned the proper operation of high pressure burners on short operating cycles. Blend H (70% No. 2 and 30% No. 1) seemed to overcome this difficulty without the need of burner modification except in one instance where smoking conditions were reported even with blend A on a high pressure burner operating on short cycles in a warm air furnace. In this case the opinion was expressed by the testing laboratory that carbon would be built up on the heat exchanger and on the helix of the stack switch.

New York "Closed" for a Day as Tug Strike Stops Fuels

THE COUNTRY'S LARGEST city and the oil-heating industry's No. 1 market was completely closed down for one day, February 12, because the tugboat strike in the harbor had virtually stopped deliveries of fueloil and coal, and Mayor O'Dwyer had been convinced by his fuel advisers that there was no more than one day's fuel supply within the city.

The Mayor's decision, reached too late for the afternoon papers on February 11, was broadcast throughout the evening on all radio networks. All businesses were ordered closed until further notice, except those directly related to public health. Within about 24 hours the situation had improved slightly and the ban was lifted.

The city's fueloil bulk stations are virtually all tidewater plants, served by barges that operate from ocean tanker terminals. So when tugs stop no barges move and the only way to get emergency fuel into the city is through the underriver tunnels in tank trucks, and that can be only a trickle.

For several days fueloil was rationed by the police department; no deliveries were permitted without a police permit.

Dealers Get Mark-Up On Ceiling Increase

INSTALLING DEALERS may employ the same percentage of mark-up on oilburners sold under the new ceiling price as they used in 1941, and are not limited to the dollars-and-cents increase in the cost of the burner to them, according to the most recent interpretation out of Washington. The wording in Amendment 3 to MPR 591 referring to "re-sellers" now is understood to mean distributors, jobbers and wholesalers and not the retail dealer. These wholesalers may only pass on the actual dollars-and-cents increase in the burner price.

The dealer who sells oilburners to the user may apply the same percentage of mark-up to the new oilburner cost to him that he used before the war. An "installing dealer," according to Washington, is not a re-seller.

Disposal of "Big Inch" Lines Still in Indefinite State

THE UNITED STATES SENATE on February 15 voted to extend the "Big Inch" pipeline disposal for thirty days, but the House failed to concur in this extension within the legal time limit, with the result that the War Assets Corp. is now to proceed with the sale or lease of the lines for oil purposes, but not for natural gas. If no buyer appears, the Government is authorized to operate the lines.

Gas may again enter the picture if after a reasonable time (probably quite a long time) it is found impractical to operate them for oil. In the recommendations of the Surplus Property Administrator some weeks ago, using the lines for gas was listed as fifth, and last, choice in the event none of the first four recommendations, all for oil by various methods, could be brought to fruition.

U. S. Department of Labor Fueloil Prices December

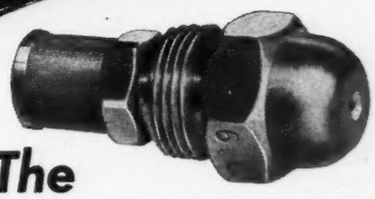
FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken Dec. 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	9.10	8.96	7.60	7.60
Bridgeport	8.80	...	7.50	7.50
Fall River	...	...	8.30	...
Manchester	9.60	...	8.30	...
New Haven	8.80	...	7.50	...
Portland, Me.	8.77	8.70	7.53	...
Providence	8.80	8.72	7.60	...
Baltimore	...	8.35	7.50	...
Buffalo	9.40	9.40	8.50	8.50
Newark	...	8.75	7.50	7.50
New York	...	...	7.60	...
Philadelphia	...	8.48	7.43	7.41
Rochester	9.50	9.60	8.23	8.20
Washington	...	8.80	7.90	...
Chicago	7.96	7.45	7.45	7.45
Cleveland	...	8.55	...	8.03
Detroit	...	8.45	7.93	7.42
Des Moines	...	8.29	7.75	7.75
Milwaukee	8.50	8.50	8.00	8.00
Minneapolis	8.40	8.30	8.10	8.10
Omaha	...	8.10	7.60	7.60
St. Louis	8.47	7.83	7.55	7.55
St. Paul	8.30	8.30	8.10	8.10
New Orleans	...	8.72	7.21	7.21
Norfolk	...	8.50	7.30	...
Richmond	...	8.30	7.50	...
Denver	...	8.67	7.14	...
Portland, Ore.	...	7.06	6.05	...
Seattle	...	7.47	6.44	...

*Price includes 1% sales tax.
**Price includes 2% sales tax.
**Price includes 3% sales tax.

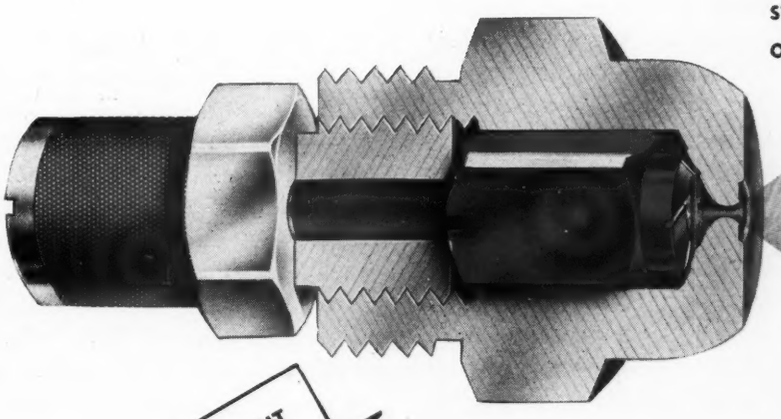
Walter Klie, past president of the Heating, Piping & Airconditioning Contractors National Assn., and president of Smith & Oby Co., large Cleveland heating contracting firm, died February 12 following an operation at the Cleveland Clinic Hospital. He was 64 years old.

You'll Want to Investigate This New Nozzle!



The GOVERNOIL NOZZLE

Many years of successful service have proven that the Governoil Nozzle provides correct angle and spray, delivers the rating stamped upon it and keeps variance with oils of various viscosity at a minimum.



- Oil follows smooth curves.
- Improves "spin".
- Decreases friction.
- Decreases pressure loss.
- Atomizes thoroughly at lower pressures.
- Holds correct spray angle at all pressures.
- Capacities 0.5 to 6.0 gallons.
- Delivers true gallonages.

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State Legislators Move to Speed Home Building

WITH STATE as well as federal action holding the key to the question of when the long promised postwar housing program, with its attendant unprecedented broadening of the market for oil heating equipment and fueloil, will get into full stride, a survey of developments in state capitals throughout the country discloses an increasing trend toward state legislation of both an emergency and long-range character to stimulate residential construction.

The problem of getting postwar building under way is being attacked by the states from varied angles, including such divergent steps as putting local governments into the housing business on the one hand, and encouraging private enterprise to broaden its housing activities on the other.

Although less spectacular than Washington action, the state developments may in some instances prove of more lasting significance to the building and related industries. Such steps as elimination of local building code obstacles are necessary to any real solution of the housing problem. Other action of vast importance includes the clearance of state legal obstacles from the path of large-scale investment of private capital in residential real estate by such groups as the life insurance industry, with its $49,000,000,000 of assets.

In attempting to solve the emergency need of housing for veterans, the states in a number of instances are moving to use their own resources rather than leaning so heavily on the federal government as was the general tendency both during the war and in the depression decade. As one step in its emergency housing program, New York State's legislature this year passed a bill appropriating $35,000,000 for temporary dwellings.

Another bill in the New York program, which was on its way to passage at this writing, would permit municipalities to grant tax exemption for a period not to exceed 12 years on alterations and improvements to dwelling. The measure also authorizes abatement of taxes on the entire property up to 80-1/3 per cent of the cost of rehabilitation during each year. Another New York bill would increase the subsidy for permanent low cost housing from $6,250,000 to $9,000,000.

Enacted by the Massachusetts legislature was a bill granting broad emergency powers to cities and towns to provide housing for war veterans. The measure empowers local governments to: Raise and appropriate money for veterans' housing; take land by eminent domain on sites on which to erect temporary shelters; and borrow outside the debt limit up to ½ of 1 per cent of their valuations for five-year bond issues to finance such programs. Another bill introduced in Massachusetts would authorize a $25,000,000 state bond issue, with which the State Housing Board would buy land and build homes with preference in renting or sale to veterans.

Municipal Construction

A bill introduced in the Rhode Island legislature would give sweeping powers to municipalities to undertake construction of dwellings for veterans and their families. The measure would empower municipalities to raise and appropriate funds directly to provide housing for veterans, or to match federal grants that might be made available.

Illinois has contributed $4,300,000 to the Chicago Housing Authority for use in acquiring land for veterans' housing. A bill providing for state loans to veterans for home or farm purchase was on its way through the Mississippi legislature, modeled after laws already effective in a number of states. California's legislature, in special session, was considering expansion of its program of farm and home loans to veterans, along with an appropriation to help finance conversion of federal way housing to veterans' housing use.

Another form of state action to meet the emergency situation was the Minnesota governor's appointment early this year of a state "housing expediter" to work with building supply industries and federal agencies on materials distribution; with local communities on pressing unused building into service; with building trades unions to gain their support in speeding home construction, and with federal agencies to foster municipal participation in their programs. A state committee in Minnesota has been studying housing needs and factors retarding production.

Provision of housing for veterans attending colleges is causing a problem in many states, with action being taken to relieve the situation. Pending at this writing in the Missouri legislature was a bill appropriating $5,366,570 as the state's share of a $10,500,000 construction program at state-supported colleges to provide housing facilities for veterans and others. Funds to match the state's share would be obtained from the sale of revenue bonds which would be redeemed by the net proceeds of rentals of the housing space.

In Massachusetts, Gov. Toben called for passage of legislation authorizing the Massachusetts State College Building Association to construct additional dormitories at a cost of $400,000 to house veterans. These dormitories would be leased to the state and operated on a self-liquidating basis over a 20-year period. Similar steps are being taken in other states.

Help to Private Building

Continuing into current-year legislative sessions, with probable further action next year when more legislatures will convene, is a trend toward the enactment of legislation to facilitate investment of private capital in the rehabilitation of blighted housing areas. At least 13 states last year enacted such legislation, with prospects that more will follow suit. The general pattern of these measures is to authorize either municipal agencies or private redevelopment corporations to acquire blighted areas by eminent domain powers for subsequent development by private capital. Tax advantages are offered in some instances as an additional inducement. States in which such legislation was being sought at this writing included Missouri, Rhode Island and others.

The states also are acting to remove the obstacles to building caused by archaic local building codes. Rhode Island's legislature passed a resolution urging municipal governments to examine building and

(*Continued on page 74*)

Why Paragon NONE BETTER

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- Coupling set screws easily accessible.
- Nozzle and combustion assembly easily removed no matter how close burner is set to wall.
- Electrodes securely held and easily adjusted.
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fuel oil heat

zoning codes so that restrictions and cumbersome procedures may be eliminated to expedite construction of new dwellings. New Jersey's legislature was urged by the Building Contractors of New Jersey to draft a modern, uniform building code which could be adopted inexpensively by municipalities. A committee functioning under the State Department of Economics Development has been preparing such a standard minimum code for residential buildings.

Introduced in the New York legislature were bills to empower the state housing commissioner to establish residential construction standards which cities, towns and villages could adopt as their own building codes. Similar action has been taken in recent years by Indiana, Connecticut and other states. Municipal action to modernize building codes has been making increasing progress and was under way at this writing in several major cities, including Chicago and Cleveland.

Unemployment Compensation May Include Smallest Dealers

A TREND TOWARD liberalization of state unemployment compensation laws, which reports from state capitals indicate is extending into current state legislative sessions throughout the country, threatens to remove the exemption from unemployment compensation taxes now enjoyed by many fueloil and oilheating equipment dealers in most states by virtue of the small number of workers they employ.

Despite opposition from small merchants, there has been a steady trend in recent years toward the inclusion of all employers under the unemployment compensation system. As contrasted with the federal minimum requirement that coverage be extended to persons working for employers of eight or more workers, firms employing one or more are already included in the laws of 13 states—Arkansas, California, Delaware, Idaho, Maryland, Massachusetts, Minnesota, Montana, Nevada, Pennsylvania, Utah, Washington and Wyoming—and the District of Columbia. In New Mexico employers of two or more persons are affected, while Arizona, Ohio and Wisconsin include employers of three or more. Employers of four or more come under the system in eight states—Connecticut, Kentucky, Louisiana, New Hampshire, New Jersey, New York, Oregon and Rhode Island. Employers of six or more are affected in Illinois, with the remaining 22 states including employers of eight or more.

Besides extending coverage to smaller businesses, the states have been increasingly liberalizing unemployment compensation laws as to maximum benefits, duration of benefit payments, waiting periods before payments begin, and in other respects. This trend has been in progress ever since the inception of these laws but was especially accelerated last year. Although comparatively few legislators convene in regular session this year, early indications were that a number of them, as well as some meeting in special sessions, would further liberalize these statutes. This action, which probably will be taken on a more widespread basis next year, when some 45 state legislatures will meet again in regular session, is stimulated by belief of state officials and some employer groups that liberalization of the state laws will lessen pressure for federal control of the entire unemployment compensation system.

With state unemployment reserve funds now approximating a total of $7,000,000,000 compared with less than $2,000,000,000 in early 1941, it is widely agreed that liberalization as to maximum payments, duration of payments, and waiting periods is safe. If carried too far, however, and if combined with other proposals, such as making benefits readily available to strikers and broadening the system to include payment of sick benefits, the trend toward liberalization of these laws might weaken the reserve funds to unemployment without adding to the tax burden of employers.

Unemployment taxes now produce far more revenue than any other single form of state taxation, yielding a total of more than $1,300,000,000 in the 1944 fiscal year. The closest other form of state taxation was the total of $721,000,000 produced by general sales, use, or gross receipts levies. Although the basic rate of the tax for unemployment compensation is 2.7 per cent, it varies in most states according to the employment record of the employer. The rate is under state control, with the laws of more than three-quarters of the states providing for reduced tax payments by firms providing steady employment.

Reflecting the trend toward broadening and liberalization of unemployment compensation was retiring Gov. Colgate W. Darden's recommendation to the 1946 Virginia legislature that coverage be extended to employees of all firms instead of those working in establishments employing eight or more persons, and that maximum compensation be increased from $15 for 16 weeks to $20 for 20 weeks.

Would Increase Benefits

In Rhode Island, Gov. John O. Pastore recommended that maximum benefits be increased from $18 for 20 weeks to $25 for 25 weeks. Gov. Maurice J. Tobin asked the 1946 Massachusetts legislature to set unemployment compensation at a maximum of $25 for 26 weeks instead of the present $21 for 23 weeks. A bill introduced in the New York legislature would increase benefits generally from $21 to $25 a week, with the additional provision of a $3 weekly benefit for each dependent child.

Pending at this writing in a special session of the California legislature, with the backing of Gov. Earl Warren, was a bill to provide the same benefits under the state unemployment compensation system for insured workers temporarily unable to work because of illness as are allowed now to those who find themselves jobless for economic reasons. Pointing out that California is one of only four states requiring unemployment compensation contributions from workers, Governor Warren declared that the state's reserve fund was sufficient to finance the proposed sickness benefits entirely from the employee contributions, without any new or additional contribution from employers.

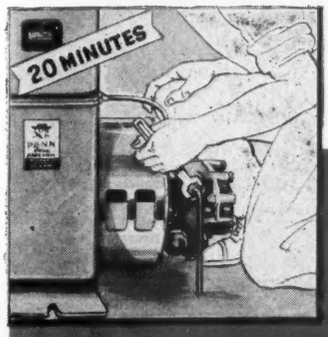
Rhode Island is the only state now paying sickness benefits to workers. Al-

(*Continued on page 78*)

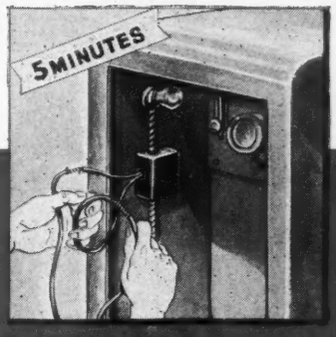
Sometimes Its Good Business to . . .

"Watch the Clock!"

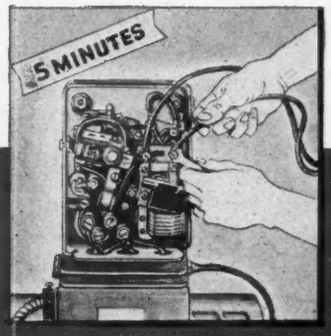
Cut Installation Time with PACKAGED HEAT



1. Connect existing oil line to unit in 20 minutes.

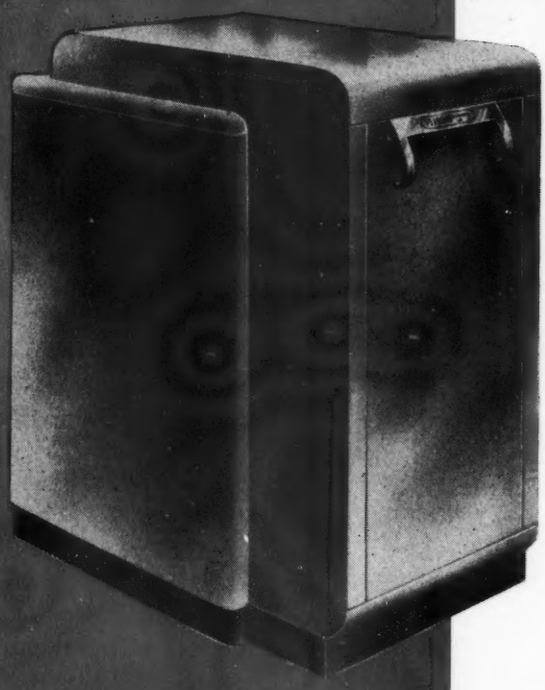


2. Run existing 110-volt line into knockout box and connect in 5 minutes. No further wiring required.



3. Connect thermostat wires in 5 minutes after they have been run to burner.

4. Connection of boiler (complete) to existing radiation headers and existing piping in 4 hours.



PACKAGED HEAT—*as packaged by Penn*—includes dealer-profit protection in the "package" . . . and any watch or clock will prove it! Absolutely complete connection of Packaged Heat to existing facilities requires a few hours only. Even the standard controls are delivered mounted on the unit and enclosed in the jacket—an advantage due to Penn's exclusive, *patented* "Wing Jacket" construction. Oil in-put is fixed at the factory. With Packaged Heat your installer "just picks it up . . . sets it down . . . and plugs it in."

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PENN BOILER & BURNER MANUFACTURING CORPORATION

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though an increasing number of states have evidenced interest in such broadening of social security and labor groups have backed such proposals in many states. While both the Rhode Island and the proposed California programs call for financing from employee contributions additional levies against employers would be the probable result if experience showed the need for increased support.

A new development in unemployment compensation legislation is a current drive by labor to obtain benefit payments for strikers. Members of the United Auto Workers, CIO, picketed the New Jersey legislature at its opening this year in an attempt to force the enactment of such a measure. CIO unionists recently conducted a demonstration in the Connecticut state capital in the efforts to get special session action on such legislation. They pointed out that strikers now can obtain unemployment benefits in Rhode Island, Pennsylvania and New York. In the latter state's legislature, the CIO was advocating enactment of a bill to permit strikers to draw unemployment insurance benefits after one week on strike, instead of being required to wait seven weeks as at present.

Meanwhile labor groups and other ardent advocates of broadened and more liberal unemployment compensation laws continue to oppose measures to ease the employer tax burden by rewarding those with stable employment with lower tax rates. Under a bill introduced in the New York State legislature, employers of the state, who saved $76,000,000 in unemployment insurance tax payments in the first year of the state's new modified merit rating law, would receive additional savings by increasing the maximum rebate from 60 to 75 per cent of employer contributions. The state CIO immediately announced, however, that it would not only fight this bill but also would seek suspension of the existing provisions for rebates to employers.

Liberalization of the coverage and benefit provisions of unemployment compensation laws already has made such progress that all states, without exception, have in some way liberalized these statutes since the adoption of the social security system. The trend was particularly pronounced last year, when 25 states increased maximum benefits and 28 states lengthened the period in which benefits may be paid. As a result of this action, weekly benefit maximums of $20 or more now prevail in 27 states, in which approximately 78 per cent of all covered workers are employed. Eleven States pay $18 weekly, three states pay $16, and 10 states pay $15. Originally only three states paid more than $15, and none more than $16.

Maximum benefit duration of 20 or more weeks now prevails in 33 states, which include approximately 80 per cent of all covered workers. Twelve pay for 16 weeks, and two for 14 weeks. Originally only one state provided protection for as long as 20 weeks.

The waiting period before benefits begin was originally three or four weeks in many states, whereas now 35 states, with more than 90 per cent of all covered workers, require a waiting period of only one week, while Maryland has eliminated the wait period entirely. In the remaining states the wait period is two weeks.

Thus, while Congress has showed continued coolness toward proposals for increased or complete federalization of the unemployment compensation, the record reveals that the states themselves have been moving rapidly toward the standards sought by federalization advocates, such as extension of the system to all employees in covered industries, instead of those with eight or more employees; and maximum benefits of at least $25 a week up to 26 weeks.

Building Materials Prices

PRICES OF BUILDING materials in general today are not out of line with prices of other goods. Over the last thirty years, prices of building materials have moved closely with non agricultural goods in general, and there has been no serious divergence in movement during World War II.

These conclusions are drawn in a study of building materials price movements by Lester S. Kellogg, Acting Chief, Prices and Cost of Living Branch, Bureau of Labor Statistics, U. S. Department of Labor, in the current issue of the Architectural Record.

"Compared with price movements during World War I, advances in building materials prices during and since World War II so far have been moderate," Mr. Kellogg writes. "Over the six years since August 1939, wholesale prices of building materials as a group have advanced about 32 per cent, and the major part of this increase was in the price of lumber. Other building materials showed much smaller price increases."

Readjustment of building materials prices in general to prices in other fields, therefore, is not a problem, although prices for particular materials will likely face realignment, the author states.

Sharp Rise in Lumber Price

The problem of readjustment for lumber, however, is acute because it has risen about three-fourths in price since 1939, much more than prices for other building materials.

"Since lumber represents an important part of the cost of materials for the average house," Mr. Kellogg asserts, "such a price discrepancy may have important effects on the construction industry. A tendency to the use of Masonry products for exterior walls and insulation board and similar materials for interior walls may be expected if this discrepancy continues.

"It seems reasonable to assume, however, that relationships will move back toward normal through reduction of lumber prices and increases in the prices of other materials, although the readjustment probably will not be accomplished immediately.

"For the next six months or a year, assuming continued price controls over materials and no substantial rise in the general level of prices, it is our expectation that prices of building materials, as a group, will rise slightly.

"This may occur," Mr. Kellogg says, "through stable or declining prices for some materials, such as lumber, offset by advancing prices for other materials where an incentive to further production may be needed to obtain adequate output, as in the case of brick."

Department of Labor data reveals that brick and tile prices are 24 per cent above prewar levels, cement prices are less than 10 per cent above prewar levels, prepared paints are up 7 per cent, heating equipment and plumbing fixtures are about 15 per cent higher in price than in 1939, while prices rose less than 10 per cent for other building materials, including insulation board, roofing, lime and plaster.

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Manufacturers Activities

Week-Long Sales Meeting Features School Attendance

DIVISION MANAGERS and District Representatives of the Williams Oil-O-Matic Division of Eureka Williams Corporation assembled recently at the Bloomington, Illinois factory for a week of sales conferences.

Oil-O-Matic managers at week-long meeting

A unique feature of this week-long sales meeting was the fact that every Division Manager and District Representative attended the Oil-O-Matic service school which, for some time, has been in operation for the purpose of training dealers' servicemen.

Every phase of territorial management was discussed, ideas exchanged, and also methods of operating were established.

Brown Adds 35 To Sales And Maintenance Staffs

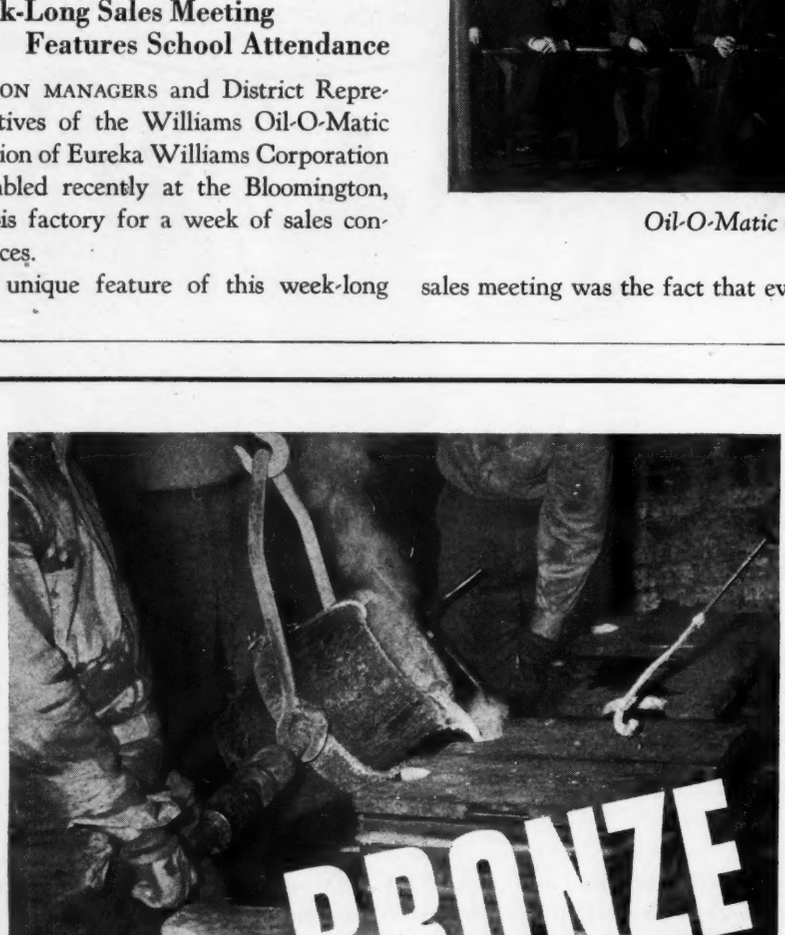
TWENTY-FOUR sales and 11 service engineers have been added by the Brown Instrument Company and have been assigned to branch offices of Minneapolis-Honeywell Regulator Company of which the Brown company is the industrial division.

The sales engineers and the offices to which each has been assigned are as follows:

D. L. Russell assigned to Boston; A. F. Cecere, to Hartford, Conn.; J. A. Rorex, to Houston, Tex.; R. Mitchell, A. D. Mayo, Jr., and H. W. Greisback, Chicago; C. C. Spousta, Jr., and A. R. Willy, Indianapolis; D. F. DeVine, Portland, Ore.; W. H. Palmer and Ross Hubley, Minneapolis; J. Dunlap, Toledo; H. W. Araucz, Detroit; A. T. Challman, San Francisco; H. T. Noonan, Buffalo; L. T. Macgill and A. M. Zellar, Philadelphia; C. McIntire, Cincinnati; R. D. Bailey, Washington, D. C.; J. F. Stein, St. Louis; H. W. Sinewe, Pittsburgh; R. A. Wolfe and E. G. Brown, New York City, and R. F. Bruckart, Cleveland.

The service engineers added to the staff and the cities to which they have been assigned are:

G. F. Neill and C. Vivion assigned to Atlanta, Ga.; W. W. Weaver, to Boston; J. J. Asklar, Hartford, Conn.; C. Hornbacker and J. P. Chuchman, Chicago; M. T. Glass, Dallas; A. T. Nicholls, Buffalo;



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A. Bernard, Montreal, Can.; O. P. Kelly, Syracuse, N. Y., and H. E. Luther, Indianapolis.

York-Heat Awarded Good Housekeeping Seal

THE HIGHSPOT of York-Heat's first postwar dealer meeting held January 25th in Boston, Mass., was the announcement by Victor Lazo, General Manager of the York-Heat Division of York-Shipley, Inc., that the Good Housekeeping Institute Seal had been awarded by the publishers of Good Housekeeping Magazine for use on all York-Heat Domestic Oil-Fired Equipment.

York-Heat Boston dinner

Representatives of the magazine present at the meeting stated that prior to the granting of the right to use the seal a long and careful analysis of York-Heat operating records and York-Heat postwar equipment had been made by the Engineering Research Institute of Good Housekeeping Magazine.

The meeting was attended by more than 250 dealers. They were the guests of Allied Appliance Company, of Boston, and other York-Heat distributors in that territory.

Standard Oil (N.J.) Announces Consolidation of Departments

IN A MOVE designed to give greater emphasis to mechanical development and engineering research, Standard Oil Development Company, central technical organization of Standard Oil Company (New Jersey), announced consolidation of its two engineering departments.

The consolidation brings into one organization more than 400 scientists and other employees of the General Engineering Department and the Process Engineering Department which have operated independently for nearly 10 years. The

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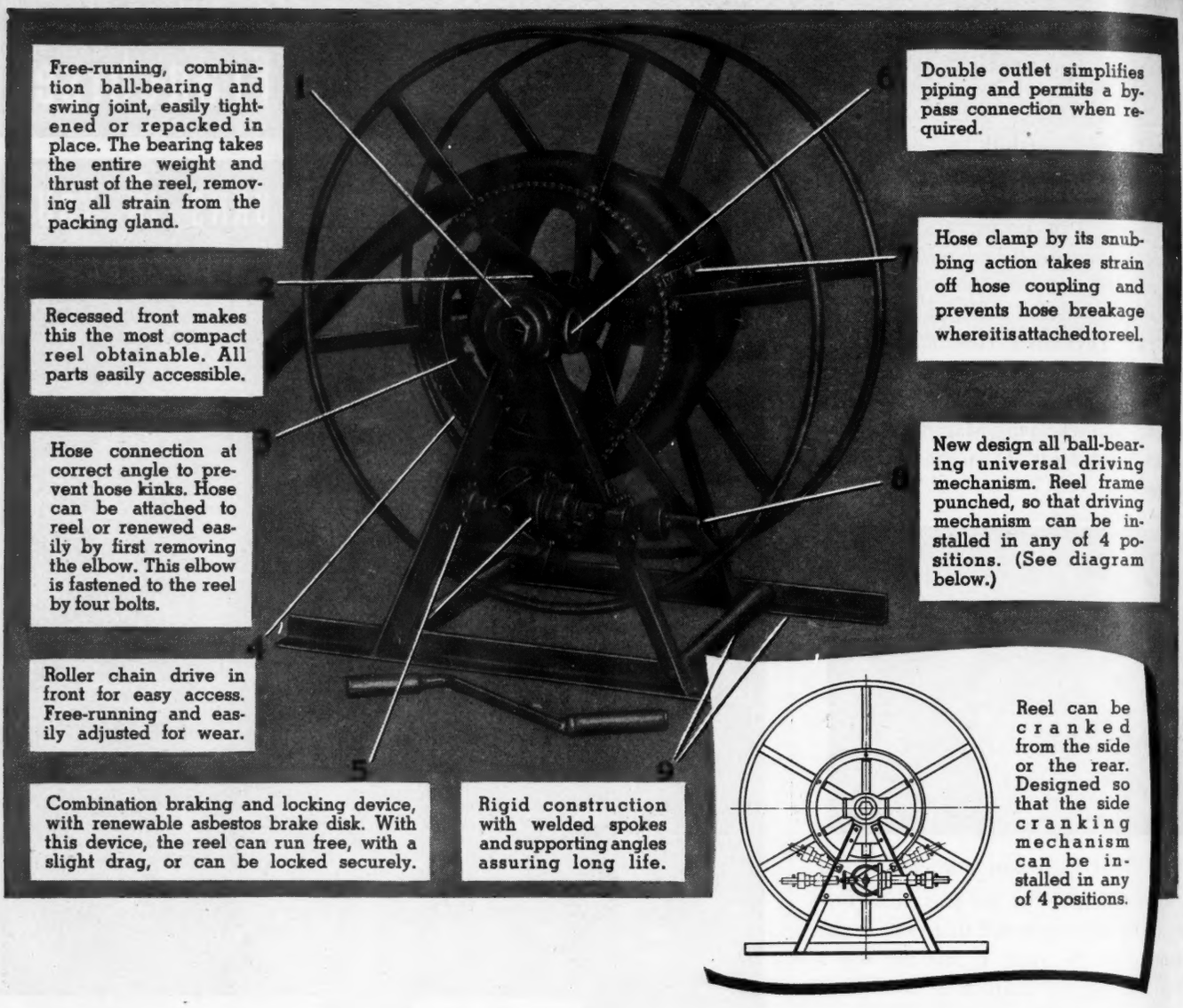
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Free-running, combination ball-bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
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Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
4
Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
5
Combination braking and locking device, with renewable asbestos brake disk. With this device, the reel can run free, with a slight drag, or can be locked securely.
9
Rigid construction with welded spokes and supporting angles assuring long life.
6
Double outlet simplifies piping and permits a by-pass connection when required.
7
Hose clamp by its snubbing action takes strain off hose coupling and prevents hose breakage where it is attached to reel.
8
New design all ball-bearing universal driving mechanism. Reel frame punched, so that driving mechanism can be installed in any of 4 positions. (See diagram below.)
Reel can be cranked from the side or the rear. Designed so that the side cranking mechanism can be installed in any of 4 positions.

The New Hose Reel You Have Been Looking For

COMPACT, RUGGED, LIGHT IN WEIGHT, BALL-BEARING CONSTRUCTION THROUGHOUT

The New Philadelphia Valve Co. reel is the finest reel built. It is compact, rugged, and light in weight. All parts are of steel, malleable iron, or bronze; no cast iron is used. It is ball-bearing throughout with hardened and ground races. (6 ball bearings are used.) It will never wear out.

The reel can be changed from top winding to bottom winding by reversing the hose connection and rotating the drum. All working parts and hose connections are in front and easily accessible. It is light in weight, a reel that holds 100 feet of 1½" hose, weighs only 93 pounds.

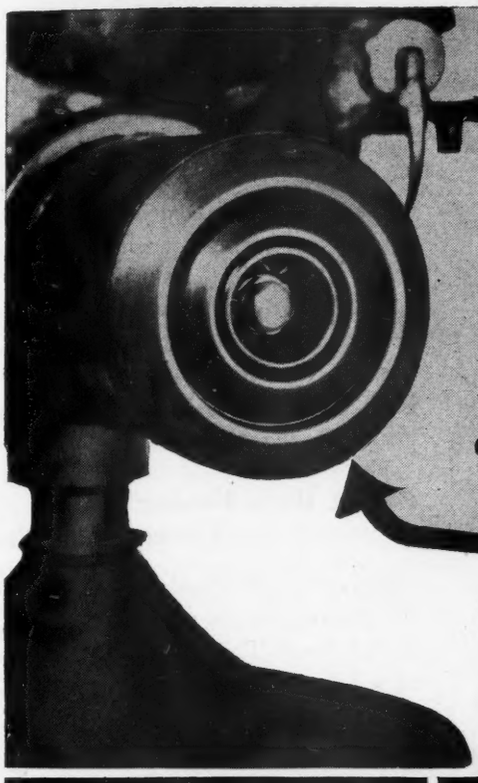
We can furnish hose reels in any size or shape. They can be furnished for installation either in bucket box at rear of truck or in underslung box on side of truck. Give inside dimensions of box when writing for information. Special reels can also be furnished for Airfield Refueling Pits and Ship Docks.

Delivery can generally be made in a few days after receipt of order. For sizes, prices, and dimensions, write for Catalogue No. 165.

PHILADELPHIA VALVE COMPANY

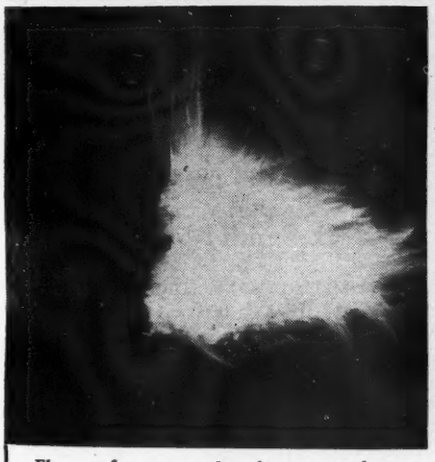
ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA 34, PA.

Oil Marketing Equipment Company, 321-325 Fremont Street, San Francisco 5, California

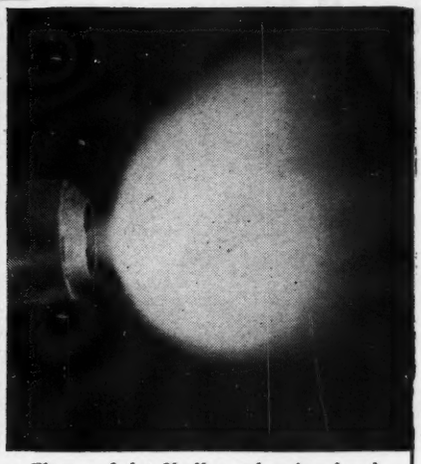


NEW SHELL COMBUSTION HEAD ASSURES SMOKELESS COMBUSTION . . . with up to 14.5% CO_2!

Now Available to Burner Manufacturers Under Licensing Arrangements



Flame of a conventional gun-type burner. Irregular pattern, "bumpy" at low oil consumption rates. Excess-air percentage is necessarily high to prevent smoking.



Flame of the Shell combustion head. Steady, *controllable* pattern. Complete combustion with but a negligible amount of excess air.

New design makes possible important savings in domestic fuel oil costs, especially for the smaller burner sizes. Smoother combustion creates an *entirely new concept of quiet operation!*

Accurate adjustments can be made easily and quickly while burner is in operation.

For more information, communicate with Shell Development Company, Incorporated, 50 West 50th Street, New York 20, N. Y. Note: Shell does not manufacture this patented combustion head, but does make the design available to burner manufacturers under license.

HOW THE SHELL COMBUSTION HEAD WAS DEVELOPED

Shell's Sewaren, N. J., laboratory is devoted exclusively to development and research work related to oil burners and their fuels. In the course of hundreds of laboratory tests, design ideas were evolved which resulted in a major project to improve the efficiency of gun-type burners.

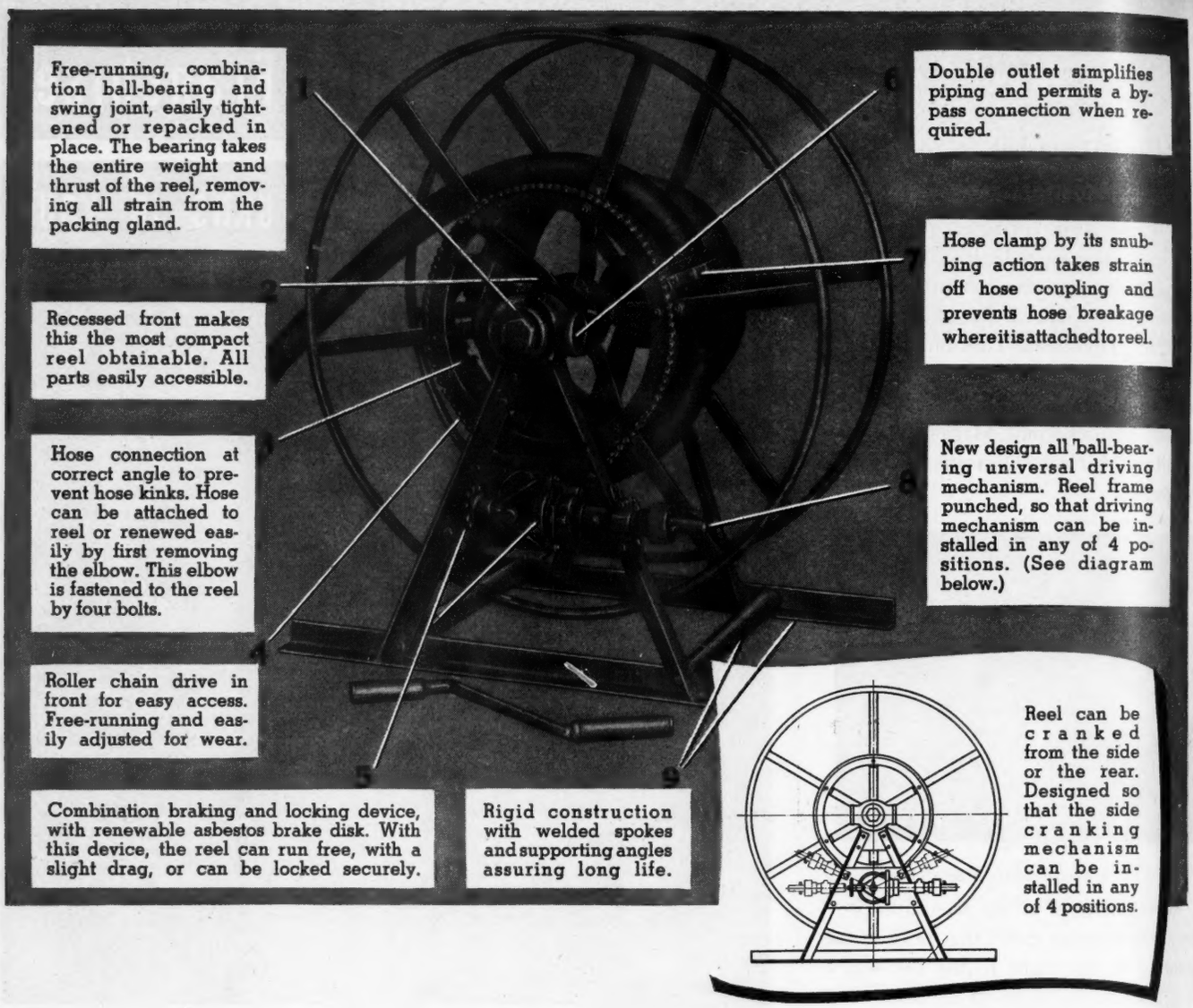
By working with higher air velocities and new designs, a combustion head was developed that will assure oil burner manufacturers smokeless combustion with up to 14.5% CO_2—performance considered excellent even for large industrial installations.

SHELL DEVELOPMENT COMPANY, INCORPORATED

50 West 50th Street, New York 20, N. Y.

SHELL

fueloil & oil heat


1
Free-running, combination ball-bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
2
Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
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Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
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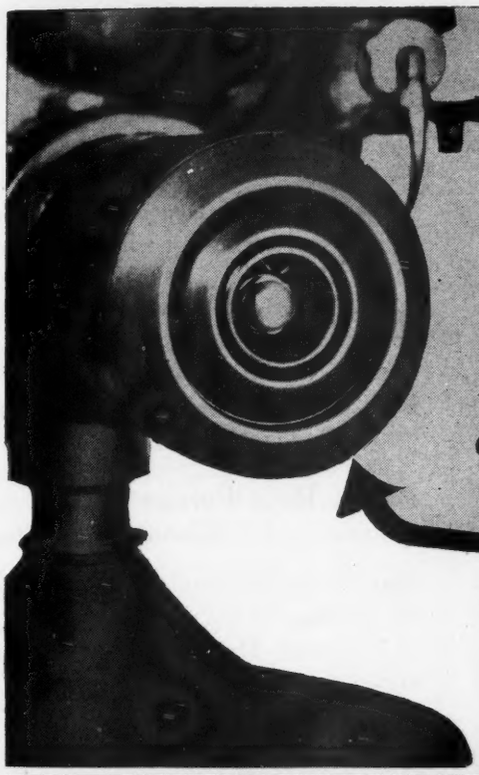

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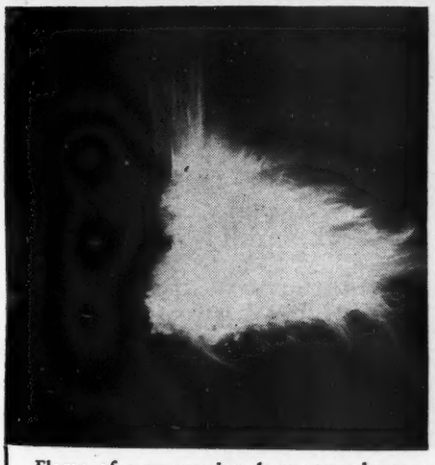

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SHELL DEVELOPMENT COMPANY, INCORPORATED

50 West 50th Street, New York 20, N. Y.

SHELL

fueloil & oil heat

new organization, named the Esso Engineering Department, is directed by E. W. Luster, chief engineer, who reports to Dr. N. E. Loomis, vice president in charge of engineering.

Under the new setup, E. H. Barlow, former chief engineer, becomes consulting engineer of the Development Company, handling many of the contacts with company executives on engineering matters of general interest. Assistants to Mr. Luster are P. J. Byrne of the Process Engineering Department; C. E. Paules of the General Engineering Department, and N. F. Myers, former associate manager of the process division.

C. T. Harding is named chief process engineer, C. F. Hesselbach, chief mechanical engineer, and A. J. Ely, chief construction engineer.

New Eastern Sales Offices Opened by Eureka Williams

EASTERN SALES and display offices have been opened by the Eureka Williams Corporation in the Empire State Building, New York City, it was announced recently by George H. Wilkens, Eastern sales manager of the company's Eureka division.

The new offices will serve as a focal point for the division's sales and merchandising activities in the Eastern part of the country. The company's New York City factory service branch will continue at 537 Third Ave.

The company's Eastern headquarters will be in charge of Wilkens. Les Brown, New York district manager of the Williams division, also will make his headquarters at the new offices.

Perfex Buys Former Government Plant

PERFEX CORP., Milwaukee, has announced the purchase of the manufacturing plant at 710 South Third Street, which is operated during the war as its Optical Division. The building, which contains 63,000 square feet of floor space, will be used to increase production.

Including 66,000 square feet now under long term lease, the corporation has a total of 314,000 square feet, or nearly five times the plant area which the company occupied when it started in 1934.

H. B. Smith Names Officers

H. B. SMITH CO., Westfield, Mass., now is headed by Henry S. Washburn, chairman of the Board of Directors, and Stanley K. Smith, president.

Franklin A. Ferguson is vice-president and general manager and a director of the corporation, and George W. Roraback is a vice-president, manager of production and a director. A. Lionel Lawrence, vice-president and treasurer, also has been made a director.

John E. Reed, advertising manager, has been made secretary of the corporation, with Sidney T. Dorrington as assistant secretary and assistant treasurer. Coll T. Flint, sales manager of the Boston Branch Territory, has been elected a director.

New Milton Ray Book

MILTON S. RAY of the Ray Oil Burner Co., San Francisco, has written a new book, "The Poet and The Messenger," a poem on War, Peace and the United Nations Conference. Mr. Ray also has written "The Farallones," the "Painted World" and other poems. The new book in deluxe binding is priced at $10.25.

NEW! ONE-UNIT FLEXIBLE COUPLING ASSEMBLY CAN'T FALL OFF!
when blower and pump units are serviced

HERE'S THE NEW
L-R TYPE C X DOUBLE-FLEX
FLEXIBLE COUPLING
for Oil Burners

(A) L-R Body inserted (not bonded) in rubber body. (B) L-R Socket actually molded in the rubber (no metal) engages blower hub.

Note simple, fool-proof, easy installation construction.

A standard L-R Body is inserted (not bonded) into the molded synthetic rubber center unit. Molded into the other end is the L-R Socket that engages either L-R Jaws on blower hub or another L-R Body which is permanently fastened to the motor shaft.

These are the reasons why you should look into the advantages of this new unit.

(1) One-unit construction — comes out with shaft when pump or motor is moved.
(2) Can be assembled in a jiffy in close quarters or by "feel" in the dark.
(3) No metal to metal contact—secure tight fit—tight grip—no looseness —no rattle.
(4) Deeper center hole. Shaft can extend ½" into unit.
(5) Saves time on original installations and service.
(6) Six sizes from 2¼" to 5" long.
(7) Low cost.

Blower manufacturers will supply blowers with L-R jaws on the blower hub.
To get all the facts—write today for Bulletin No. 520.

OHI

LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street • Chicago 44, Ill.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their group's activities, to reach the editor by the 20th.

Internat. Heating & Ventilating Exposition To Be Held

ANNOUNCEMENT has been released that the Seventh International Heating and Ventilating Exposition will be held at Lakeside Hall, Cleveland, Ohio, January 27 to 31, 1947. Sponsored by The American Society of Heating and Ventilating Engineers, the exposition will be held in conjunction with their 53rd Annual Meeting.

This first post-war heating, ventilating and air conditioning exposition will bring together under one roof the results of research and development for the past seven years. Not since 1940 has this widely recognized event been held, and it is expected this will be one of the largest and most productive expositions of its kind ever held. It will illustrate vividly the manner in which the industry is prepared to serve peace-time business.

N. Y. Old Timers Plan Stronger Local Group

INTERESTED MEMBERS of the Old Timers Club in the Metropolitan New York area met three times during February under the chairmanship of Regional Director Dan Bierman with Anthony J. Sbare acting as secretary, to revive the local chapter, and plan a reorganization after the lapse forced on the whole group by the war. A dinner meeting for all members in the area is being planned tentatively for early April. Notices will be sent to members of record.

It is the feeling of the group that the Old Timers is primarily a social organization without a platform or a campaign to sponsor, and as such the local unit should be more useful to the membership than the national organization. For this reason preliminary discussion has centered around the formation of a strong New York chapter that can serve as a focal point for local members. Recommendations along this line probably will be made to the next meeting of the Regional Directors who serve as a board of directors for the national organization, with the suggestion that other regions be set up similarly. This, it is felt, would make possible more frequent meetings than the national organization has been able to sponsor, and present an opportunity for more activity.

Under the New York plan the local chapters would collect sufficient dues from their members to support the activity planned and remit national dues to the central organization for their members. The plan would organize the Old Timers along much the same lines that the Distribution Division of Oil Heat Institute now operates.

New Long Island Group Joins OHI Distribution Div.

OIL HEAT INSTITUTE OF NASSAU-SUFFOLK, a new oilheating dealer group on Long Island, N. Y., has been formed and has affiliated with the Distribution Division of Oil Heat Institute of America. This is the twenty-eighth chapter of the Division to join OHI.

Organization took place at Hempstead, N. Y., at a dinner meeting February 19,

For Transferring, Proportioning, Processing

The Socony-Vacuum Oil Company uses many Yale & Towne TRI-ROTOR Pumps for transferring, proportioning and processing many of the products bearing the famous trade-name SOCONY-VACUUM.

YALE TRI-ROTOR truck pumps are the *only* modern low-pressure pumps that have the high volumetric efficiency of a rotary pump *plus* the positive handling characteristics of a piston pump. This means that TRI-ROTOR Pumps operate *economically, quietly, safely* . . . without *overheating, chewing, foaming or agitating the product*. And because it has only three moving parts, the TRI-ROTOR also assures minimum maintenance.

Three head styles are available: Solid, By-Pass and Variable Volume Head, covering all types of truck pump installations. Sizes 5 gpm to 200 gpm.

Write your pump requirements to The Yale & Towne Manufacturing Company, 213 Henry St., Stamford, Connecticut.

TRADE YALE MARK

PUMP DIVISION

MAKERS OF THE FAMOUS YALE LINES
OF LOCKS, HARDWARE, HOISTS AND INDUSTRIAL TRUCKS

at which Managing Director A. E. Hess of OHI was principal speaker. The group was formed with 42 charter members, and it is expected that a minimum of 100 members will be secured within the next few months. Meetings will be held the third Tuesday of each month at locations to be announced. It is planned to rotate the place of meeting to make it easier for members to attend from both ends of the 100-mile territory.

Sponsors and incorporators of the OHI of Nassau and Suffolk (Counties) were J. Garland, Roslyn Supply Co., Roslyn, L. I.; H. Schwindt, Roxen Utilities, Rockville Centre; Herbert Odorno, Parker-Odorno Co., Ocean Side; William Dodge, Dodge & Taylor, Baldwin, and Charles Grasser, Grassland Fuel Co., Long Beach.

Officers are Mr. Odorno, president; Mr. Dodge, vice-president, and Mr. Grasser, secretary-treasurer.

Oil-Heat Institute Membership Booms

MANAGING DIRECTOR A. E. Hess has reported the following new members recently elected to the Oil-Heat Institute of America, Inc., as evidence of the increasing interest and activity in the industry: American Mohawk Corporation, New York; Atlantic Steel Boiler Co., Philadelphia; Combustion Utilities Corporation, New York; Domestic Engineering Company, Chicago; Guardian Utilities Co., Michigan City, Ind.; Herco Oil Burner Corporation, Lancaster; Iron Fireman Mfg. Company, Cleveland; Plumbing and Heating Journal, New York; Quiet-Heet Mfg. Corporation, Newark; Sheet Metal Worker, New York; The Viking Mfg. Company, Cleveland.

N. Y. and Michigan Conferences To Be Held

THE NATIONAL WARM AIR Heating and Air Conditioning Association announces the 15th Annual four-day Forced Warm Air Conference to be held on March 18, 19, 20 and 21 at Michigan State College, East Lansing, Michigan, and also the First Annual Warm Air Heating Conference to be held at the College of Applied Science of Syracuse University, Syracuse, New York on April 15, 16, 17, and 18.

Due to the fact that more applications may be received than can be taken care of, registration should be as early as possible.

Those attending the 15th Annual Conference should write to Professor Lorin G. Miller, Michigan State College, Room 111, Olds Hall, East Lansing, Michigan, and for the First Annual Warm Air Conference letters should be addressed to Dean Louis Mitchell, College of Applied Science, Syracuse University, Syracuse, New York. The registration fee of ten dollars should accompany registrations.

Heating, Piping and Air Cond. Contractors To Meet

THE MEMBERS of the Heating, Piping and Air Conditioning Contractors National Association will meet in their Fifty-seventh Annual Convention in the Ritz-Carlton Hotel, Atlantic City, New Jersey, May 22, 23, 24 and 25th, 1946.

Plans now call for a five-session convention with the first session convening Wednesday afternoon, May 22. The second session is scheduled for Thursday morning, the third and fourth sessions will be held on Friday, and the fifth and final session will occur on Saturday morning.

Not Just A Dream

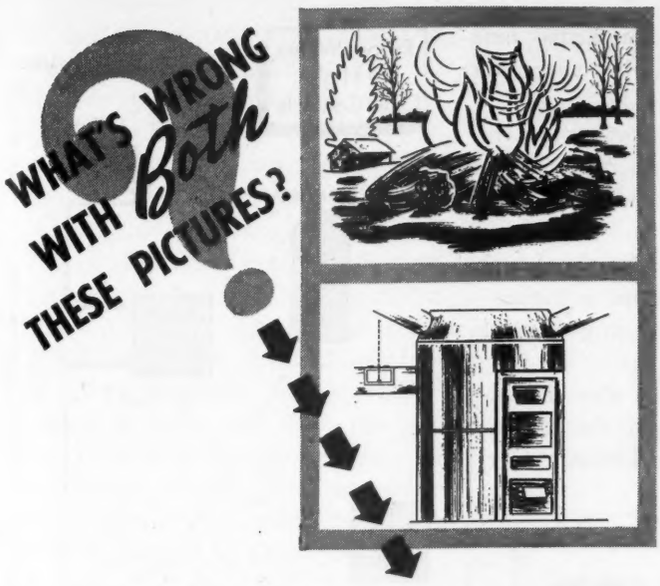
There *is* such an oil burner. It's the famous Herco Residential. Equipped with Mercoid Visaflame and the exclusive Herco Thrifti-Fier—the Residential is everything you and your customers have dreamed of in a service-free, economical heating unit. Herco's precision engineering has integrated the fine parts into a balanced, good-looking unit of peak combustion efficiency. Yes, these Hercos are in production—but we must admit—in limited numbers. We simply can't make top-quality Herco burners in the quantity necessary to meet the ever increasing demand. Leading dealers know that their future reputation depends on the burners they sell today . . . many want Hercos.

HERCO OIL BURNER CORP., LANCASTER, PA.

The entire Herco line will be on display at the National Oil Heat Exposition in Philadelphia, April 23-27th. Stop in and visit us there—see for yourself the top-quality, oil-thrifty features of a Herco.

HERCO
The Oil-Thrifty
OIL BURNER

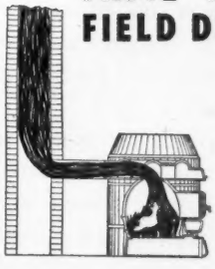
Western States Representative:
Harold Winningham & Company
Main Office:
1112 Second St., Seattle, Washington
Branches In:
San Francisco, Los Angeles, Salt Lake City, Denver and El Paso.



THE SAME THING!

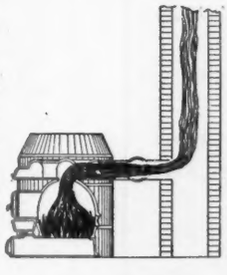
Why are both heating units inefficient, wasteful, old fashioned? Because neither is equipped with a DRAFT CONTROL. Every HAND-FIRED FURNACE in your area is a prospect for a FIELD BAROMETRIC DRAFT CONTROL. Installation is easy; profits substantial. And sales come easy with a promise of fuel savings up to 25%, longer banking, more even burning, fewer trips to the basement. Write for complete information.

2 SIMPLE ILLUSTRATIONS PROVE THE NEED FOR A FIELD DRAFT CONTROL



The diagram at left illustrates what takes place in the average heating plant not equipped with a FIELD DRAFT CONTROL. When the chimney draft is greater than necessary for proper draft and combustion, heat is drawn up the chimney and wasted. Fuel wastes run as high as 25%!

At right we picture for you the change effected when a FIELD DRAFT CONTROL is installed. The barometric pressure opens the gate, maintaining the proper draft to carry smoke up the chimney, but allowing excess draft to by-pass through the opening in the Control, the opening varying according to the pressure of the air upon the gate. Fuel savings run as high as 25%.



field

FIELD CONTROL DIVISION
OF H. D. CONKEY & CO. MENDOTA, ILLINOIS

RETURNED VETERANS AND FAMILIES WANT ECONOMICAL SMALL HOME HEATING . . . WITH *Automatic Temperature Controls . . .*

Serve This Great and Profitable New Market By Selling Vaporizing Oil Burner Appliances Equipped with Dependable "A-P" Constant Level Oil Controls . . . . .

PERFORM a genuine service for the great army of returning service men eager to establish and enjoy modest, comfortable homes for their families. Tell them about the convenience, economy, and all-around efficiency of heating with vaporizing oil burner space heaters, floor furnaces, and basement furnaces equipped with a dependable "A-P" Constant Level Oil Control that assures uniform home heating automatically. You will be building customer good-will as well as profitable sales volume!

Leading makes of Vaporizing Oil Burner Appliances equip their units with the dependable, fuel-saving "A-P" Constant Level Oil Control. It is to your immediate and profitable advantage to feature this efficient equipment that affords smaller type homes such genuine heating comfort and economy.

WRITE for new illustrated Bulletin describing the "A-P" Constant Level Oil Control with "Magic Pilot."

Illustrated is the "A-P" Model 240 WYP Constant Level Oil Control for water heaters—equipped with "Magic Pilot." The "Magic Pilot" also is available on other model controls for vaporizing burner floor furnaces and furnaces, where a low pilot flame must be maintained indefinitely.

AUTOMATIC PRODUCTS COMPANY
2458 North 32nd Street, Milwaukee 10, Wisconsin

DEPENDABLE *Oil Controls*

A-P CONTROLS ARE DESIGNED TO ELIMINATE SERVICING!

fuel oil & oil heat

Everyday Snags

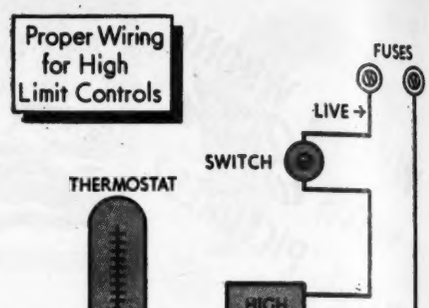
High Limit Controls

FIELD CHECK-UPS show that in certain areas a number of high limit controls are connected in the thermostat circuits of oilburners. These controls are wired low voltage in series with the room thermostats as shown by the limit control labelled low voltage in the diagram. A snap-acting control is used, of course. Where the thermostat is a Minneapolis-Honeywell Series 10 model, the snap-acting limit control is inserted in the white wire of the thermostat circuit.

"Why not wire the limit control that way? It works fine!", a service man recently said when his attention was called to such wiring.

That is true, for opening the thermostat circuit certainly stops a burner—when all the controls are in good working order.

However, most dealers wire the limit controls in the live line to the oilburner control panel to gain additional safety.



(See the high limit control labelled 110-volt in the diagram.) If the relay of the oilburner panel should by any chance fail to drop out when the thermostat circuit is broken, the high limit control in the 110-volt line would still stop the burner. Also, owners seem less likely to disturb line voltage wiring than low voltage wiring, and the BX cable or conduit used for 110-volt lines protects the wires in the circuit better than the wires in a low-voltage circuit are protected.

This excerpt from the regulations of the National Board of Fire Underwriters is pertinent: "Limiting controls and low water shut offs intended to disconnect the burner from the electric supply should be connected into the burner supply circuit on the supply side of all other burner circuits."

* * *

Radio Interference

THE FIRST STEP in handling a complaint about a burner causing radio interference is to make sure the burner is to blame. Next, make sure the burner's ignition system is healthy in general. Look for high tension leads which need replacement, for loose connections which might cause sparks in the high tension circuit, and for a cracked or very dirty porcelain insulator which might cause sparking. Keep the burner motor idle by opening a connection in the motor junction box, and

PERFECTION ACHIEVED

THE HIGHEST DEVELOPMENT IN HEAT RESISTING CHROMIUM STEELS

A New TYPE 446 Stainless **STEEL** Fire Box can be used up to 2150° F. temperatures

$9.90 to the Trade

Reg. U. S. Pat. 2341622

PEMCO 3 IN 1

This One Chamber Adjustable from 1:00 to 2:25 g.p.h.

SATISFACTION GUARANTEED

For Technical Bulletin or Orders Write Your Nearest Distributor

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RHODE ISLAND
Universal Supply Company, 134-136 West Exchange St., Providence

NEW YORK
Minet Heating Supply Company, 865-867 East Ferry St., Buffalo
Vin's, 3612 East Tremont Avenue, New York City
Northrup Supply Corporation Binghamton—Illion—Oneonta
J. S. Carpenter, 250 St. Paul Street, Rochester

DELAWARE
Delaware Plumbing Supply Company, 107-8-11 Market St., Wilmington

NORTH CAROLINA
Langley Sales Company, 304 South Davie Street, Greensboro

WISCONSIN
W. A. Roosevelt, Southeast corner Front & Vine Sts., LaCrosse

MINNESOTA
Roberts-Hamilton Company, 701-715 South Third St., Minneapolis

IOWA
Inter-State Oil Company, 1401-21 Grand Ave., Sioux City
Stuart Supply Co., 417 Ninth St., Des Moines

IDAHO
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WASHINGTON
Zahniser & Warren, West 609 Second Ave., Spokane 8

CANADA
Fuel Oil Equipment Limited, 570 Queen St., E. Toronto, Ontario

LOOK FOR US IN 107 BOOTH

PEMCO

DISTRIBUTORS INQUIRIES INVITED WRITE

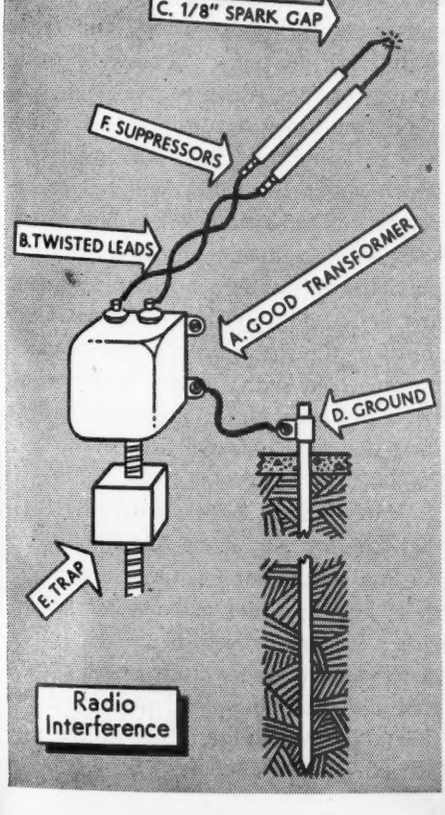
P. O. Box 1499 New Haven 6, Conn.

turn the ignition transformer on and off while you listen to the radio to find out if the burner ignition system is responsible for the radio interference. If it is, you can rid the job of the interference in 99 cases out of 100 by taking these steps:

A. Make certain the burner is equipped with a good transformer. Not only must the transformer be free of defects, but in addition it must be a make and model which is outstanding for its minimized tendency to give radio interference. If necessary to make sure about this, try other makes of ignition transformers on the oilburner. Install each transformer properly. Don't just lay it next to the burner and hook it up loosely by temporary wires.

B. Install two high tension leads of exactly the same length and twist them together. As this invites short circuits, make certain the insulation on the leads is excellent; if possible, install new leads which have better insulation than generally is used. High tension leads not enclosed in metal should be shielded in a shipshape way which does not invite short circuits, and the metal used for shielding should be grounded to the burner castings.

C. If the spark gap is 3/16" wide as many service men set it, reduce it on the trouble job to 1/8". Make doubly sure



HERE'S THE 6TH REASON WHY....YOU CAN MAKE MORE MONEY AS AN H.C.LITTLE DEALER

THE QUIET OPERATION OF AN *H. C. Little* OIL BURNER IS IDEAL FOR DOMESTIC INSTALLATIONS

For example, in an Arcola installation, which must be absolutely silent, the quiet operation of the H. C. Little oil burner makes it the perfect burner for the job.

(This is Advertisement #6 in a Series of Eight)

THESE ARE THE OTHER SEVEN REASONS

- Exclusive Burner Design
- Exclusive CI Electric Ignition
- 40% Quicker Burner Installation
- Absence of Service
- Complete Range of Burner Sizes
- Complete Line of Factory Assembled Units
- Designed for the BIG Market of Small Homes

WRITE FOR A COPY OF "How to Get Real Profits in Postwar Heating" and learn ALL the reasons why you can make more money as an H. C. Little Dealer.

In the operation of the H. C. Little vaporizing oil burner there is no hum–no vibration–none of the objectionable roar or pulsation often found in mechanical burner installations.

Quiet burner operation is an important sales point, which H. C. Little dealers use to good advantage. Quiet operation makes the H. C. Little oil burner ideally suited to domestic installations, especially in smaller homes.

The unusually quiet operation of the H. C. Little oil burner cannot be illustrated with charts or proved in a photograph. However, it can be *demonstrated*. If you are interested, write for the name of your nearest H. C. Little distributor, who will be glad to show you an H. C. Little burner in actual operation. We think such a demonstration will give you a better idea of why you can make more money as an H. C. Little dealer.

H. C. LITTLE OIL BURNER

H. C. Little BURNER CO.

Dept. 2
San Rafael, Calif.
Factory Representatives in Principal Cities

The Greatest Name in Low-Cost Automatic Oil Heat for Small Homes

MILLER

OIL-HEAT CONTROLS

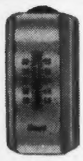
For space heaters, furnaces, boilers, or hot water heaters.

Precision — Engineered for Small Homes.

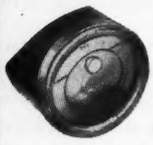
Cuts Customer Service Costs

MILLER DOUBLE SAFETY
Constant Level Oil Control
VALVE
Resets automatically — no manual resetting necessary. 50% more uniformity of oil flow.
100% fool-proof oil control.

THERMOSTAT
Precision built for positive action. Less than 1°F differential insures even temperatures at all times.



DRAFT REGULATOR
Built in two sizes — one for 5" — one for 7" 8" and 9" smoke pipes. Controls drafts at any determined setting. Maintains draft setting with minimum variation.



LIMIT CONTROLS
For electrical operation. Available in three types, calibrated for warm air furnaces, steam or hot water boilers.

TRANSFORMER
Fits 4" round outlet box. Special winding prevents burn-out. Specially designed for Miller Controls.

THE MILLER COMPANY
Heating Products Division
MERIDEN, CONN.

SINCE 1844

- ILLUMINATING DIVISION
- HEATING PRODUCTS DIVISION
- ROLLING MILL DIVISION
- FOUNDRY DIVISION

WRITE OR WIRE FOR FULL DETAILS TODAY

it still will light the oil when the burner starts.

D. Although this is a lot of work, it is highly effective and has had to be applied where long distance and short wave radio reception were involved. Provide a ground connection right at the burner by driving a ground rod or bare metal pipe into the ground about six feet. Connect the case of the ignition transformer to the ground rod by a wire not more than about 18" long. Make sure that all the parts of the burner have good electrical connections to the transformer case. If you have doubts about this, use copper wire jumpers to connect together the different metal parts of the burner. Also try connecting the boiler or furnace to the direct ground.

E. Install a good radio trap, designed for such application, in the 110-volt input line of the ignition transformer.

F. Install suppressors, of the type used on automobile spark plugs but designed for use on oilburners, in the burner's high tension circuit.

* * *

Dirty Concealed Radiators

IF YOU ARE INTERESTED in the size of the fuel bills of any building heated by concealed radiators, make sure that the radiators are cleaned at proper intervals. The yearly gallonage of one large home recently was reduced 30%, and the heating comfort was improved considerably, by removing for the first time the fronts of indirect radiators installed 13 years ago and cleaning the radiators. A certain New York apartment house cannot be heated properly now because its concealed radiators are almost tight-plugged with dust and lint. Removing the front panels of a dozen sample radiators proved this. This condition is not being remedied all at once, however, because removing a radiator front panel breaks away the adjacent edge of wall plaster and makes it necessary to have a painter do extensive touching up. This plan is being followed. Before a room or apartment is redecorated, the fronts of all the radiators in it are removed by maintenance men, the radiators are cleaned thoroughly with a high-powered vacuum cleaner, and the fronts are re-installed. Plastering and touching up around the fronts is done when the room is redecorated. While they have the radiator fronts off, the maintenance men also are giving much-needed attention to the radiator steam feed valves and the steam traps which connect the radiators to the return lines. Out of each hundred radiators, three or four have steam leaks at the glands of the feed valves, and about eight need new trap elements. This building has been in use 18 years, and the superintendent is of the opinion that the equipment behind the radiator panels would not be receiving attention even now, owing to the owners' reluctance to spend money on the heating plant, were it not that finally it became impossible to heat certain apartments to 70° when the outside temperature dropped below 25°. As it takes two years to redecorate the entire building, one room or one apartment at a time, it will take two years to put the heating plant in good condition.

◈

Study Shows Market For Canadian Appliances

POTENTIAL BUYERS of household appliances in Canada are indicated in a survey released by Maclean-Hunter Publishing Co., Toronto 2, Ont. The study covers 1,526 housewives who were personally interviewed after selection according to population distribution in urban and rural areas. The items covered range from mattresses to water heaters, and space heaters, but did not touch central heating equipment.

Heating stoves, according to the study, will be bought by 227,000 families, of which about two-thirds will be for replacement, and a third will be new installations. Nearly half the prospective stove purchasers will buy a space heater as the first or second appliance purchase. Two-thirds of the stoves will be coal or wood burning, one-sixth oilfired, and a sixth electric or gasfired. It is estimated that the total dollar volume will amount to $5,700,000.

Water heaters will be bought by 181,000 families for about $2,900,000, according to the survey. Only a third of these buyers would make water heaters either the first or second purchase. The demand is largely for electric heaters with coal and wood in second place, and gas third. Nearly four out of five will be original purchases.

TACO HEATERS

for today's special needs

Tankless Taco, opened up, shows large area of heating surfaces

Tankless Taco Heaters are particularly adapted to present conditions when tanks are difficult to get. In addition, these heaters save space, reduce radiation losses and eliminate the maintenance expense of hot water tanks.

They do away with the nuisance of rusty hot water. There is no place where sediment may collect and periodically be stirred up. Water is heated in non-corroding copper coils, submerged in hot water direct from the heating system boiler, circulating through an enduring cast iron body.

Tankless Tacos are made in a complete range of sizes and thousands are in successful service today.

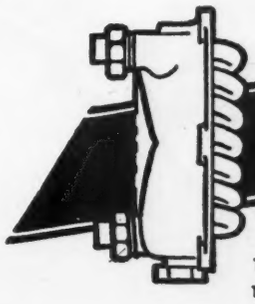
Government restrictions on the manufacture of copper-tubed heaters for essential civilian use have been liberalized. Taco Tankless Heaters are now available to holders of necessary priorities. Ask your jobber, or us, for procedures complying with latest WPB rulings.

TACO TEMPERING VALVES

Automatically regulate and limit the temperature of hot water delivered to fixtures. Prevent excessive hot water after no-draw periods. A valuable adjunct in tankless installations. Two types—adjustable and non-adjustable. Described in Taco Catalog D-99.

SOMETHING TO LOOK INTO:

Taco Heaters, Inc., will occupy booth 518 at the National Oil Heat Exposition.



TACO-ABBOTT SYSTEM

Taco

TACO HEATERS, INC., 342 MADISON AVE., NEW YORK 17, N. Y.
TACO HEATERS of CANADA, LTD., 24 ADELAIDE ST. W, TORONTO

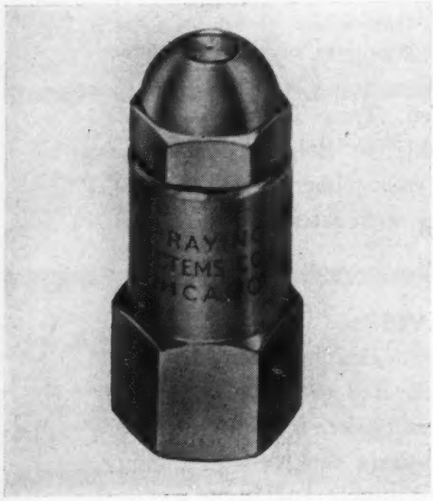
fuel oil & oil heat

New Products

Spraying Systems Has New Atomizing Nozzle

A NEW ATOMIZING spray nozzle for domestic oilburners has been announced by Spraying Systems Co., Chicago 24, manufacturers of hydraulically engineered spray nozzles of all types. It is supplied in all commercial oil capacities and spray angles.

The body and core are made of brass and the tip is steel, with a stainless steel orifice insert. The core end is of stainless



steel. An internal strainer screen is of welded monel metal. Because of special high production machining methods developed by Spraying Systems' engineers, these nozzles can be offered in production quantities at attracive prices.

◈

Magnetic Plug Takes Metals from Feed Lines

DRAIN PLUGS with permanent magnets fixed into the inside end are being marketed by the Lisle Corp., Clarinda, Ia., for use in oil lines and other liquid lines to remove iron and steel particles that might cause damage to moving parts. The plugs are standard sizes and threads, and are used in place of conventional plugs in the lines. Abrasive particles in the oil are caught on the poles of the magnet and held until the plug is removed for cleaning.

Though widely used in war production and war machines, use of the magnetic plugs is reported on oilburners to remove particles that might damage pump gears and plug strainers and nozzles.

◈

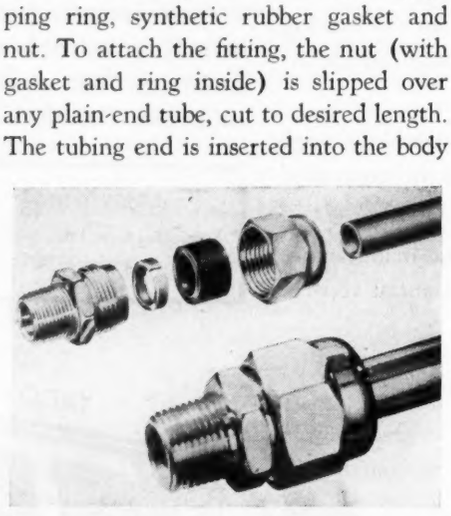
Domestic Oil Filter Announced by Kraissl

KRAISSL CO., INC., Hackensack, N. J., has announced a new small filter suitable for domestic oilheating installations. This is a duplicate of their 72-01 size and can be supplied for ¼", ⅜" or ½" pipe sizes. The filter basket is ruggedly constructed by spot-welding the filter screen over perforated metal. It is designed to be easily accessible for cleaning. Any practicable filter screen can be furnished, as requested by the user.

◈

Tubing Fitting Cuts Preparation of Ends

FLEXIGRIP time-saving tubing fittings which eliminate end preparation or soldering of the tubing and yet produce a strong, leakproof and flexible joint have been announced by Gustin-Bacon Mfg. Co., Kansas City, Mo. The fitting, made in standard sizes from ⅛" to 1½" O.D., consists of four parts—the body, a gripping ring, synthetic rubber gasket and nut. To attach the fitting, the nut (with gasket and ring inside) is slipped over any plain-end tube, cut to desired length. The tubing end is inserted into the body



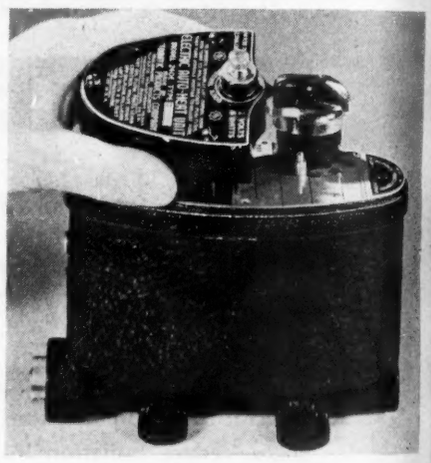
as far as it will go and the nut tightened. Tightening the nut compresses the ring into a tight grip and moulds the gasket around the ring for a leak-proof seal that is so flexible it will withstand unusual vibration or impulse.

Elimination of flaring, swedging, or soldering, the tube end adds considerably to the strength of the joint as well as saving time and labor, the manufacturer claims. Economies in time and material are also considerable over the collar, ring or ferrule type of tube-end fitting. Flexigrip tubing fittings are available in brass, aluminum or steel.

◈

A-P Conversion Makes Space Heaters Automatic

A-P ELECTRIC CONVERSION Top has been announced by Automatic Products Co., Milwaukee 10, to provide thermostatic



control for space heaters by converting the conventional manual float control valve to make possible thermostatic adjustment.

The top is held by a few screws to the top of the case of the manual control, and when connected with the thermostat through a transformer, will regulate oil feed to the burner according to the demand for heat. The complete conversion package, consisting of thermostat, transformer and conversion top for the control valve, is supplied by the company as the A-P Electric Auto-Heat Unit.

◈

Viking Humidified Has Glass Mat Evaporators

THE NEW VIKING Model 1100 Humidifier is designed for use in conjunction with new winter air conditioning installations or for gravity heating systems converted to forced air. The narrow evaporator pan made entirely of copper

Associate Yourself Now with YORK-HEAT—

The Oil-fired Domestic Line

HONORED BY THIS FAMOUS GUARANTEE

GOOD HOUSEKEEPING
ADVERTISING DEPARTMENT
FIFTY SEVENTH STREET AT EIGHTH AVENUE, NEW YORK 19, N.Y.

January 22, 1946

Mr. Victor Lazo, General Manager
York-Heat Division
York-Shipley, Inc.
York, Pennsylvania

Dear Mr. Lazo:

It is a distinct pleasure for me to inform you that the complete Domestic Line of York-Heat products has been granted the Good Housekeeping Guaranty Seal. This Seal, as you know, guarantees the replacement or refund of money by Good Housekeeping should York-Heat Domestic Equipment prove defective or not as advertised by you.

The investigation, a three-part one, of the mechanical aspects, performance claims and consumer literature and canvass of York-Heat users was complete today, Tuesday, January 22.

The Good Housekeeping Guaranty Seal may now be used in your trade advertising effective this date and in consumer advertising on and after the first of March 1946.

Many thanks and best wishes.

Sincerely,

mjc:mg

M. J. Culligan

The Best Known and Most Respected Product Endorsement in America.
ON YORK-HEAT DOMESTIC OIL-FIRED EQUIPMENT.

REPLACEMENT OR REFUND OF MONEY
Guaranteed by Good Housekeeping
IF DEFECTIVE OR NOT AS ADVERTISED THEREIN

AMERICA'S MOST COMPLETE QUALITY LINE OF DOMESTIC, COMMERCIAL, AND INDUSTRIAL OIL-FIRED EQUIPMENT

goes inside of the bonnet or plenum, while the water supply is maintained at a constant level by the float tank which is mounted outside of the furnace; entirely away from the heat which is frequently the cause of liming. The outside float tank is made of copper also, attractively finished in color with a contrasting trim. The water level is maintained constant automatically with the Viking top seat float valve located in the float tank. This float valve employs a novel principle which enables it to be cleaned easily and adjusted with ease.

Exceptionally high rates of evaporation are possible by the use of glass mat evaporators which draw water from the pan by capillary action. Eight evaporators are supplied with a rack which holds them vertically in the pan, where they present a large amount of evaporating surface to the wiping action of the warm air.

The entire humidifier package is supplied by Viking Air Conditioning Corp., Cleveland 2, complete with instructions and all fittings necessary to install in either a straight side plenum or the sloping bonnet of a gravity furnace.

SILOO FUEL OIL TANK SOLVENT CLEANS and KEEPS CLEAN

SILOO FUEL OIL TANK SOLVENT keeps oil burner systems clean from *tank to burner.* It removes sludge and gum from clogged pipe lines, strainers and filters—disperses all water accumulations due to condensation. **SILOO FUEL OIL TANK SOLVENT** is nationally advertised and enjoys a reputation for assured profits in a wide market.

SILOO FUEL OIL TANK SOLVENT keeps the entire fuel system clean and free-flowing, thus eliminating the necessity of scouring and cleaning storage tanks. **SILOO FUEL OIL TANK SOLVENT** is non-inflammable, non-explosive, non-corrosive and non-toxic. Wholesale distribution only. Write today for particulars.

SOLVENTS FOR ALL TYPES OF PETROLEUM RESIDUES
Petroleum Solvents
CORPORATION
(Tank Solvents Division)
General Offices: 331 Madison Avenue, New York 17, N. Y.
Plants and Laboratories: Port Reading, New Jersey
Petroleum Solvents Corp., of Canada, Ltd.
Dominion Square Bldg., Montreal

Pump Diaphragm Cloth

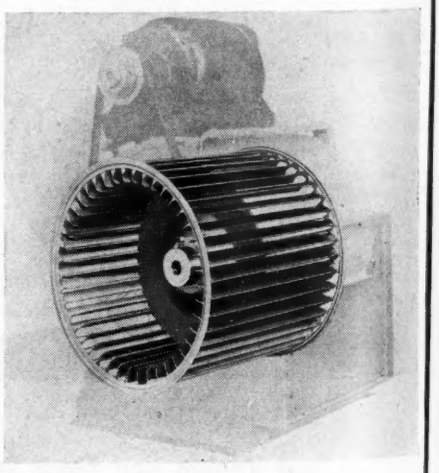
OF PARTICULAR INTEREST to pump and diaphragm manufacturers is the new 80/80 base, Style DL-011 diaphragm cloth, now being produced by Irvington Varnish & Insulator Co., Irvington 11, N. J.

In addition to very good mechanical strength, it is claimed this cloth retains its flexibility and is practically unaffected by relatively wide temperature changes.

Although developed primarily for use in the automotive field, the cloth is being recommended for applications where strength, flexibility, operating temperatures and resistance to certain solvents are important considerations. It is available in standard 100- to 500-yard rolls, approximately 37 inches wide.

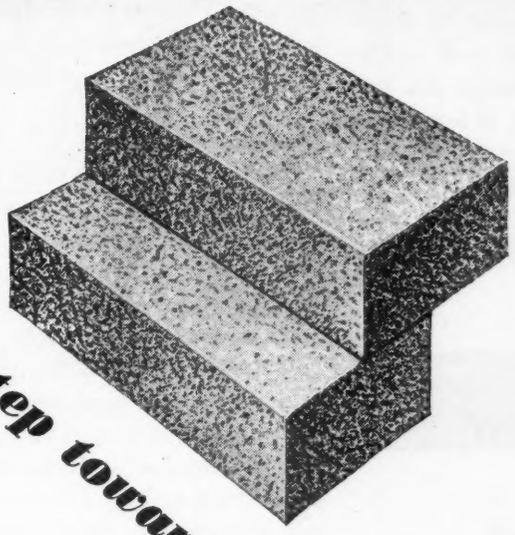
New Blower Wheel Announced by Lau

LAU BLOWER CO., Dayton, Ohio, recently announced details of a new blower wheel which the company will turn out in quantity at low unit cost. The new blower wheel will be identified as the Lau Series "A" Blower Wheel. It will be made especially for the new Lau Series "A" Blower, but will be supplied separately to



customers wanting them. The new Series "A" is a center suspension wheel which the company claims has tested and proved. It is said to have great mechanical strength, true concentricity and balance, and deliver efficient performance. It has deep blades proportioned for maximum efficiency, and each is a driven blade mechanically locked to the center disc. The end ring is narrower than end rings possibly can be for riveted or welded construc-

B&W
INSULATING FIREBRICK



a step toward

Customer satisfaction

When you line the firebox of a customer's oil-fired heating furnace with B&W Insulating Firebrick, you assure him of satisfactory heating performance—less smoke and smell, faster response to thermostat demands, and minimized burner-tip carbonization and furnace roar.

This is because the light-weight, low heat-loss properties of B&W IFB permit the firebox to reach efficient combustion temperatures quickly—in a small fraction of the time required when ordinary firebrick are used. Therefore, the "cold furnace ills," described above are eliminated. Moreover, because B&W IFB come to temperature *on the surface* quickly, but absorb very little heat, furnace heat losses are minimized, and substantial savings in fuel can often be realized.

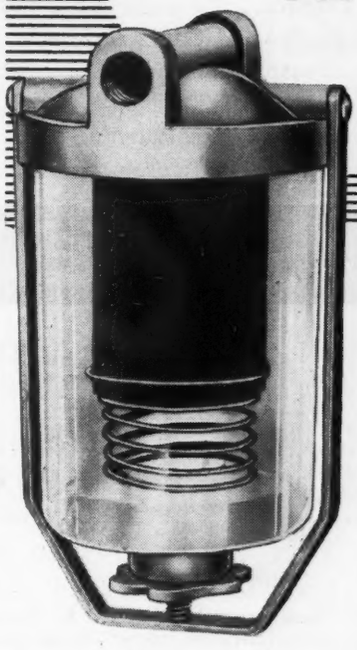
Satisfactory oil heating performance makes satisfied customers—which means more sales for you. Write today for additional information on B&W IFB for domestic heater applications.

THE BABCOCK & WILCOX CO.
Refractories Division
85 Liberty Street, New York 6, N. Y.

BABCOCK & WILCOX

R-225

STOP
OIL BURNER FAILURES



with the

Klemm
FUEL OIL FILTER

•

Controlled Porosity Filter Unit

Avoid unnecessary emergency calls for service by eliminating the causes of burner stoppages. A Klemm Fuel Oil Filter *insures* a steady flow of oil to the burner by trapping dirt, sediment, water and other foreign matter. *All of your customers need the protection it gives. . . .* It's low-priced, dependable, highly-efficient. The Klemm is the only Oil Filter with the nationally-known and approved Chemistone filtering element.

CONSIDER THESE ADVANTAGES

1. **Dependable Performance . . .** Removal of foreign matter assures smooth flow of oil.
2. **Wide Range of Use . . .** Klemm units operate efficiently with Nos. 1, 2, and 3 grade oil.
3. **Use With Any Burner . . .** Same element functions perfectly with all types of burners.
4. **Flow Capacity . . .** 50 gallons or more per hour at one-foot gravity feed.
5. **Oil Tight . . .** Extra wide gaskets make a tight seal for bowl and head casting.
6. **Easy to Install . . .** Can be readily installed on all standard models of burner or tank.
7. **Simple to Service . . .** Filter element is easily removed for cleaning. Use over and over.
8. **Full Visibility . . .** Inspection requires no removal of parts. Filter element is visible.

Write today for full information. Liberal discounts to dealers.

Klemm
AUTOMOTIVE PRODUCTS COMPANY

1718 N. Damen Ave. **Chicago 47, Illinois**

tion. This narrower end ring permits greater air flow into the wheel. The end rings are assembled and locked to the blades in a spinning operation.

◈

Torsional Spring Switch

AN UNUSUAL torsional spring arrangement, developed by the Allied Control Co., New York 21, is featured in the E-4 Snap Switch. It is designed to assure snap action and high contact pressure.

Other construction features of the switch are a forced steel housing and laminated Bakelite base to provide structural rigidity and maximum insulation. It is actuated by a slide-type molded-Bakelite button.

The E-4 switch is supplied as single pole double throw—single pole single throw normally open—or single pole single throw normally closed. It is rated at 300 watts A.C., 3 amperes at 115 volts A.C., ¾ amperes at 115 volts D.C. non-inductive. The switch is 1-5/16" long, 5/8" high, 9/16" wide. Its weight is approximately ½ ounce.

OIL BURNER MANUFACTURERS

Here's the Spray Nozzle You've Been Waiting For . . . Compare It . . . Test It . . . Ready for Prompt Delivery

OILJET ATOMIZING NOZZLE

Built with Precision To Perform with Precision

Here's a nozzle backed by years of specialized experience in nozzle design and manufacture. Concentrating in the unusual engineering and production problems peculiar to nozzle manufacture, Spraying Systems Company has an outstanding success record in meeting the most exacting requirements of industry. This specialized talent has now produced the OILJET Atomizing Nozzle . . . a nozzle that has proved its ability to improve combustion efficiency. Why not prove this to yourself by test?

OPTIONAL OILJET NOZZLE ASSEMBLY

Supplied without adapter. Consists of (1) brass core, with 18-8 stainless steel core top and welded monel metal screen, and (2) tip with 18-8 stainless steel orifice insert.

Precision Performance

OILJET provides a highly atomized spray of uniform density. Available in capacities from 0.50 GPH upward. Oil volume accurately delivered at rated capacity for given pressure.

Precision Construction

OILJET parts are precision machined to close tolerances. Wearing parts are Type 303 (18-8) stainless steel. Screen is welded Monel Metal.

If you are an oil burner manufacturer, we invite your inquiry. Give necessary nozzle specifications and OILJET Atomizing Nozzles will be shipped to you for test. Distributors interested in representing us are invited to write for information.

SPRAYING SYSTEMS COMPANY

4011 WEST LAKE STREET CHICAGO 24, ILLINOIS

SPECIALISTS IN THE DESIGN AND MANUFACTURE OF SPRAY NOZZLES

Improves Drafting Tool

AN ADJUSTABLE quadrangle combining many drafting features not usually available in one instrument has been announced. The new plastic drafting tool is called the S&J Quadrangle by its designers, the Stewart-Jackson Instrument Co., Los Angeles 14, Calif.

Angles from 0° to 90°; pitch scales from 0 to 24/12; percentage slopes from 0% to 100%; sine or cosine functions and tangents may be found with the S&J Quadrangle. This instrument has eight drawing edges, is rectangular in shape, and may be used as a triangle.

Draftsmen will find the body and arm of the instrument blank so the owner may add his own most-used cut out symbols and measuring scale. The overall size of the drafting tool (4" x 11") is convenient for desk drawer, brief case, or coat pocket.

◈

New Circulator for Hot Water Systems

TRIPLEX HEATING SPECIALTY CO., Peru, Ind., has announced a new vertical circulator for flow control in hot water heating systems.

The inlet impeller of this circulator is made up of die cast bronze hub with side flanged cover plates. Precision gauge manufacture assures close fit between the outer diameter of the impeller and bored diameter of the body—for high pumping efficiency. Combination seal ring and metallic packing are used effectively for water exclusion and grease-retaining bearing system.

Newly styled to harmonize with piping and fixtures in the most modern basement, the new Triplex Vertical Circulator has a conventional flanged body for easy attachment to the heating system. Modern manufacture makes possible complete interchangeability of parts with those of similar model and number. Standard models are furnished with spring-mounted, vertical sleeve bearing, 110 v., 60 cycle, single phase, fractional hp. motors—with automatic reset overload relays. Electrical knock-out boxes prevent transmission of noises between motors and heating systems.

These vertical models are made in 1", 1¼", 1½" and 2" pipe sizes. Horizontal models are available for 2½" and 3" sizes.

Bowser Sealing Compound

BOWSER, INC., Fort Wayne, Ind., has announced a new pipe sealing compound and gasket cement under the trade name "Black Magic." It is claimed to be insoluble in oil or petroleum base solvents, and does not become brittle with age.

The compound is packaged in 4-oz. tubes for easy handling and application, or is available in bulk in quantities from a pint can to a 50-gal. drum.

◈

Steel Boiler Prices Up

STEEL BOILER Institute, Inc. has received from OPA an increase of 14% in ceiling prices which were frozen October 1, 1941. Effective February 16, under Amendment 10 to Order 48 of MPR-591, this increase applies to any steel boiler designed to operate at less than 100 pounds steam pressure per square inch; also to sub-assemblies, jackets, repair and service parts specifically designed and produced as a subassembly, repair or service parts for use on or in connection with a low pressure steel boiler.

Steel Boiler Industry figures show an average increase of 32.94% in basic wage rate schedules since October 1941, and 13.07% increase in material prices during the same period.

The increase in ceiling prices, according to an Institute announcement, is an effort to adjust current costs so as to permit manufacturers of residential and low pressure steel boilers to produce these items without the losses which some of them have recently sustained.

◈

Bimetal Element Used In Dial Thermometer

EQUIPOISE CONTROLS, New York, has announced a new bimetal dial thermometer which is said to be permanently calibrated. It has a bimetal helical coil measuring element having a case of alloy steel. Numerals are large and easy to read and temperature graduations are on the dial.

Expansion of the bimetal coil rotates an attached small shaft and indicating pointer as one unit over the entire scale range.

Various standard ranges are available between limits of —90° and 1,000°F. Dials are 2, 3 and 6 inches in diameter.

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Nozzles: Handling Nozzle Trouble—Bench Tests for Nozzles
Pumps: Handling Oil Pumping Trouble—Service on 2-Stage Pumps—Service on Automatic Valves—Service on Pump Glands
Baffles: Proper Baffles Save Oil—More Heat per Gallon
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Name .....

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City..... State.....

Show Taking Shape

(*Continued from page 51*)

prominent guests, and an early start of a fine entertainment program. Dancing will follow the entertainment.

The second forum session will be held Friday morning with W. A. Kemp, chairman of the Accessory Division, in charge. It is to be called "The Industry Looks at Itself" and is planned to be wide open for discussion of any industry problem which needs airing. Business sessions will close with an engineering session Friday afternoon under the chairmanship of F. H. Faust of OHI's Engineering Committee.

The show will be open until 10 o'clock Saturday evening, and it is expected that Saturday will be the day of largest public attendance from Philadelphia and the surrounding area. Plans are being made for a large trade attendance at the convention sessions and at the show during the week.

Hotel rooms during the week will be provided by the Philadelphia Convention and Visitors Bureau. The members of the industry are being urged to make their reservations as early as possible through Charles L. Todd, Convention Manager, Philadelphia Convention and Visitors Bureau, 1127 Walnut St., Philadelphia 7, Pa. Fourteen hotels have set aside rooms for those who are planning to attend the convention and show, but visitors are being urged to plan their time so that rooms are not tied up longer than necessary.

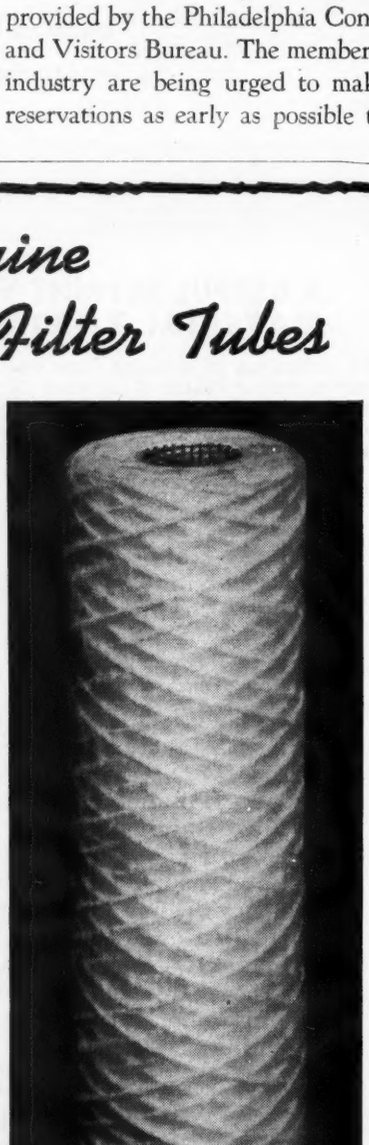
Exhibitors who had signed for space at the National Oil Heat Exposition by the middle of February are shown below.

ABC Oil & Burner
Ace Engineering
Aldrich
American Artisan
American Stove
Anchor Post Fence
Applied Mechanics
Auto-Heat
Automatic Burner
Bacharach
Bell & Gossett
Bethlehem Foundry
Burnham Boiler
Century Engineering
Chrysler Airtemp
Cleaver-Brooks
Coleman of Pa.
Columbia Boiler
Combustion Utilities
Commercial Filters
C-S Brass
Delavan Mfg.
Delco Appliance
Dielectric Products
Dole Valve
Domestic Engineering
Dongan Electric
Duo-Therm
F. W. Dwyer
Eckhart Mfg.
Eddington
Electrol
Field Control
Fitzgibbons Boiler
Fueloil & Oil Heat
Fuel Oil News
Friez Instrument
Gar Wood Industries
General Electric
General Filters
General Fittings
General Utilities
Gerstein and Cooper
Guardian Utilities
Gulf Oil
Harvey-Whipple
Heil
Herco
Iron Fireman
Jefferson Electric
S. T. Johnson
Kresno-Stamm
Lau Blower
Lovejoy Coupling
May Oil Burner
McDonnell & Miller
Measurement Methods
Mercoid
Michigan Tank
Miller
Minn. Honeywell
Monarch
Morrison Products
Morse, Lockhart
National Airoil
Nat. Oil Burner
OHI of N. E.
Owens-Corning
Penn Boiler
Penn Electric
Perfex
Petrol
Petroleum Equipment
Petroleum H. & P.
Petroleum Solvents
Petrometer
Pezzillo Pump
Plumbing Journal
Preferred Utilities
Quaker Manufacturing
Quiet Heet
Radiant Utilities
Rajah
Ray
Rayfield
Rochester
Scully Signal
Shell Oil
Sid Harvey
Silent Glow
Socony Vacuum
Sundstrand
Taco
Thatcher Furnace
Timken
Torrington Mfg.
Triplex
Tuthill Pump
Viking Air
Viking Mfg.
Waterfilm Boilers
Watts Regulator
Weather Controls
Webster Service
Webster Electric
Oil-O-Matic

◈

Sidney G. Harris has returned to his former connection as manager, Sales Engineering Dep't., Petroleum Solvents Corp., New York. For the past 42 months he has been in the Army, recently a Lt. Colonel. For nearly three years he was overseas as Area and Theater Petroleum Officer, receiving a citation for meritorious work.

Genuine
Honeycomb Filter Tubes



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UNLESS you install FULFLO FILTERS you are not getting genuine Honeycomb Filter Tubes and cannot use them for replacements. Ordinary elements do not filter like FULFLO.

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FOR Freedom from all troubles and complaints due to dirty oil install only FULFLO FILTERS with genuine Honeycomb Filter Tubes. Save service calls with FULFLO FILTERS.

LET the experience of leading dealers everywhere be your guide in selecting a filter that will eliminate fouled points, gummed or clogged nozzles and all other costly annoyances due to dirty oil.

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AGENTS IN PRINCIPAL CITIES

FULFLO FILTERS SAVE SERVICE CALLS

Readers' Forum

DETROIT, MICH.

Editor:

This letter is a "gripe" but not at your magazine, however, as I enjoy reading FUELOIL & OIL HEAT and find many helpful articles in it.

I have re-entered the automatic heating business this winter after being away from it for four years. My previous experience amounts to about twenty years.

In beginning again, I looked for a good line of equipment to handle, and I wrote to several of your advertisers. Let me tell you the results:

Three have not answered my correspondence since last December—in two of these cases I used a coupon attached to the ad. Three concerns to whom I gave a definite bona-fide order ignored them—two of them considered them inquiries, and the other one did not even acknowledge my order and after writing them the second time they merely said they were sold up to July 1946.

I should like to have your advertisers read your January editorial and remind them that this condition of unprecedented demand is not going to last forever and they had better give a little courteous consideration to prospective dealers. Before another year, they will be crying for us to sell more burners.

I sell all types of heating equipment and I must say the stoker manufacturers are not so inconsiderate of the dealer. All of my inquiries to them were answered in less than a week!

L.M.S.

◈

MONMOUTH BEACH, N. J.

Editor:

Referring to "Better Oilheating, A Service Guide," P. 33, "To Reduce Pulsations."

Back in 1927 considerable trouble of the above nature was encountered on certain jobs. I am not in the burner business, but had this trouble on my job which would burn only up to 1.3 gph, and I made a hobby of gun-type burner troubles for ten years.

Enlarging slot in the by-pass valve sometimes helps. I would not tolerate holes. On jobs properly installed and adjusted (of which there are all too few) I think the following will correct the trouble.

If a 1,150 rpm motor is used, replace with a 1,750 rpm motor. Close any face intake air holes which air adjustment shutter does not cover (some burners have two or more on side) otherwise air cannot be reduced enough.

If 1,750 rpm motor is used, try a 1,150 rpm, however, it will probably be necessary to increase the distance between fire and crown sheet by at least one foot, by either raising boiler or lowering burner. Make it more if you can. I raised one about twenty inches in Westchester.

Raising boilers costs money but I have tried and I know of some others who have tried almost everything such as combustion chambers of different shapes—even those made of Ramtite, and all kinds of gadgets with poor results.

From 1928 to 1935 it seemed to me everyone in the oilburner world as well as those connected with boilers and oil was brought to see or play with my job, both before and after I fixed it. That job at 1.9 gph held 9.7 to 10 per cent CO_2 without smoke with a .02 draft over fire

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Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.
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until I sold the house two years ago. As I remember, OPA allowed me just a little more oil than I used. My present job, after I reinstalled and adjusted it, used 15% less than allowed at 1.30 gph. The public should realize a little additional expense pays, whether the job has what I call a good boiler or at least not the best.

M. T. SHERWOOD

◈

Analysis of Income Levels

OVER 15 MILLION U. S. FAMILIES will enjoy incomes of $2,500 or above in 1946, according to a study made by Northwestern National Life Insurance Co. This is about twice as many American families as ever had equivalent buying power in any preceding peacetime year.

Twenty-five hundred dollars is now the "acceleration point" above which a rapidly increasing proportion of income is spent on prosperity goods, which is another term for non-necessities.

Thus nearly half of all U. S. families—the half who own the bulk of the Nation's $150 billion in War Bonds and other savings—will not need to dip into those savings to be a market for the flood of luxuries and semi-luxuries which will pour out of U. S. factories in 1946.

The study cites Lough's "high-level consumption" analyses, demonstrating that at living cost levels of 1913, $1,300 a year was the critical income level above which, with necessities and basic comforts provided, income was spent at an accelerating rate for non-necessities and luxuries. Using today's dollars, and after deduction of income taxes, a 1946 family of four must receive a gross income of approximately $2,500 in order to net the equivalent buying power of the 1913 family with a $1,300 income.

As family income reaches and passes the "acceleration level," now approximately $2,500, percentages spent on food and clothing decrease, while proportion of income spent on home maintenance, life insurance, recreation, health, automobiles, and luxuries, increase in accelerating ratio.

Everett R. Smith, of the Macfadden Publishing Co., is authority for the following breakdown of family incomes for January 1, 1945 and the year 1939:

	Jan. 1, 1945		*1939*	
Family Income Groups	*% of Tot.*	*Cum.*	*% of Tot.*	*Cum.*
A—Over 5,000	8.8	8.8	4.0	4.0
B—$3,000-4,999	17.8	26.6	7.7	11.7
C—$2,000-2,999	30.7	57.3	18.6	30.3
D—$1,000-1,999	28.9	86.2	36.5	66.8
E—Under $1,000	13.8	100.0	33.2	100.0

The table shows that roughly 6 million of our 37 million families have moved out of the "under $1,000" income group, and something over 10 million families have improved their position by at least one income class since 1939. This is not the entire picture. It should be remembered that a family may increase its income without jumping to a higher bracket. The class grouping merely indicates changes which affect many more families than move from one group to a higher one.

◈

Fred Ravensbeck, formerly chief engineer of the Ace Engineering Co., has now taken over active management of Staffco Engineering Corp., Chicago. Ravensbeck has had wide experience in the manufacture of industrial oilburners and has collaborated in the publishing of several well known handbooks on oilheating.

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has two features that cause the original inside diameter to be retained for *months of profitable service* . . . patented non-flattening, kinkproof construction, and a "Synplastic" tube that does not swell under contact with oil. In addition, it is light, flexible, easy to handle. No ordinary fuel oil hose can touch it for long use and hard wear.

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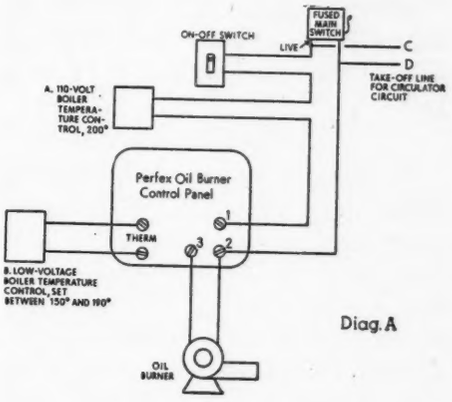
Reader's Problems

Q. Very interested in reading the problems in your magazine, now I have one of my own. Can you sketch for me the wiring of a particular job which is forced hot water with circulator? A Perfex relay connected to a low voltage boiler temperature control starts and stops the burner. When the heating boiler is hot enough, its temperature control stops the burner. The circulator will not start until the thermostat makes contact. What I am concerned about is the connection between the circulator and the thermostat.

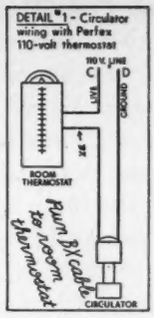
R.P., *Perth Amboy, N. J.*

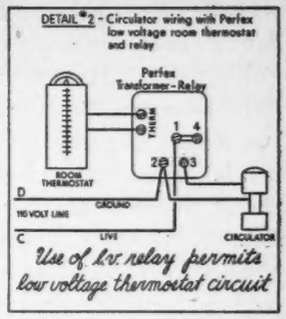
A. Diag. A. shows the wiring for a Perfex burner panel connected to a burner which fires a forced-circulation hot water heating plant. Starting at the fuses for the burner, the ground line runs to post 2 of the Perfex panel. The live line runs from the fuse to an on-off switch, then through control A to post 1 of the Perfex panel. B is the low-voltage boiler temperature control, wired to the thermostat circuit of the burner panel, which



Diag. A

starts and stops the burner regularly. If control B failed to stop the burner for any reason, control A would stop it. Notice in Diag. A the lines C and D





which provide 110-volts for the circulator circuit.

For the circulator circuit, ordinary practice is to employ the wiring of Detail #1 or Detail #2. The C and D in these drawings correspond to the same letters in Diag. A. On installations which are wired most simply, the objective is to have the room thermostat start and stop the circulator motor. In Detail #1 this is accomplished simply by wiring a 110-volt Perfex room thermostat in the live line to the circulator motor. BX cable would run to the room thermostat. Detail #2 shows how use of a Perfex transformer-relay panel, installed especially for the circulator, permits using a low-voltage Perfex room thermostat to start and stop the circulator motor. (*Cont. next page*)

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Study the article "Low-Cost Hot Water" in the September, 1945, issue of FUELOIL & OIL HEAT if you want a complete understanding of ordinary and special wiring diagrams for forced-circulation hot water heating systems. A special circuit, recommended and described in detail in the article, is used to cut oil bills by allowing the heating boiler to become cold in summer when the hot water shortage tank is warm enough.

* * *

Q. Referring to K.W.D., Baltimore, in Reader's Problems (December, 1945): He can increase the efficiency of the water heater with the 11" diameter grate by removing the smokepipe from the top of the little heater and building a brick wall two or three inches away from the boiler and over the top so that the hot gases coming from the smoke outlet of the boiler will flow down around the outside. This will double the heating surface of the boiler. My accompanying drawing shows how to make the improvement.

The baffle shown over the new smokepipe connection will prevent the hot gases from channelling or short-circuiting to the smoke outlet.

The baffle is made by imbedding brick in the 8" brick wall, laying them the long way so that they extend to the outside of the water heater.

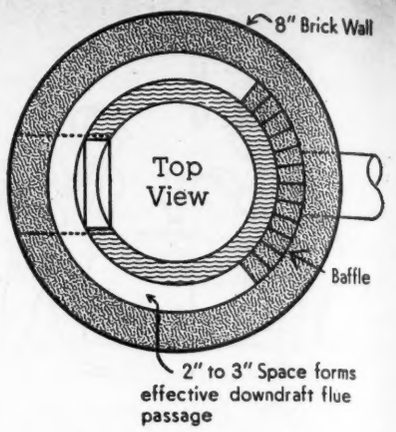
Make the inside of the brick work as smooth as possible by plastering.

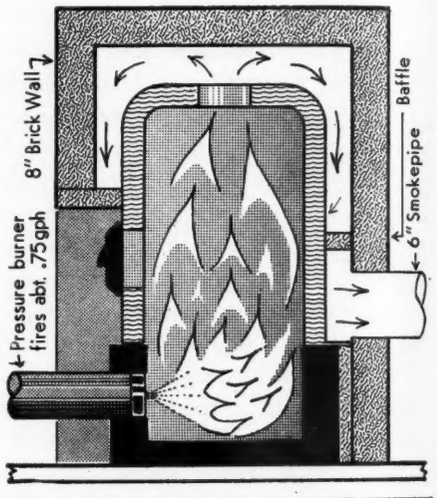
The water circulating lines between the water heater and the tank should have as few turns or elbows as possible. The size of these lines should be at least 1", or better still 1¼" if the openings in the boiler and tank permit.

With the heater thus improved, the smokepipe temperature should be well under 1000° if the oil feed is ¾ or ⅞ gph.

G.H.S., *Duluth, Minn.*

A. This is a modern, much-improved version of an idea which Old-timers will recall seeing explained years ago in early installation and service manuals of oil-burner manufacturers. The good construction and design described by G.H.S., together with cleaner burning obtainable from modern burners fitted with well-designed fireboxes, will do much to head off the dirty burning and draft troubles given by the old-fashioned arrangements for bricking in boilers. An arrangement





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of this type should not be employed where it might result in insufficient over-fire draft. The brick enclosure may well be made of insulating firebrick, and special pains should be taken to make it permanently gas-tight. There should be a way to clean the large downdraft flue passages which are provided around the water heater.

* * *

Q. A wall flame rotary burner which ran well for ten years now gives two troubles. First, there is an oily, choking odor in the basement with the burner running. Second, the flame burns all blue and hangs up on the crownsheet of the round cast-iron boiler, just like illuminating gas burning. I can see it doing that when I snatch open the firebox door for a quick look at the flame. With the firebox door held open half an inch, the flame sometimes burns better, but sometimes oil gas comes out through the crack. The only adjustment I have touched is the oil valve regulating the fire size. Setting this for a smaller flame gives better burning, but doesn't give enough flame for the size boiler and the heating load.

B.A.W., *Bethesda, Md.*

A. All the symptoms point to insufficient over-fire draft, and to insufficient air for the flame when the flame is burning at the proper rate for the boiler size and heating load. The low draft is very likely the cause of the fire's receiving insufficient air.

First, use a draft gauge to check the over-fire draft. Read the draft through a hole drilled in the firebox door. If setting the draft regulator on the smokepipe for maximum draft does not give you a firebox reading of at least .05" with the burner running normally, take steps to obtain higher draft. The chimney may be plugged, for example, the smokepipe may need replacement, or the boiler flues may need cleaning.

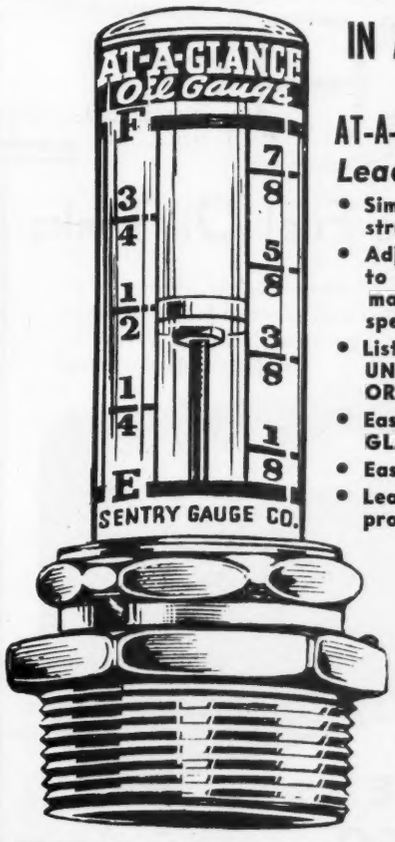
Increasing the draft over the fire will cause the flame to receive more air with the air damper of the burner in the same position as it is now, therefore the flame may please you after you have eliminated the cause of the present insufficient draft. However, since you are undertaking to service this burner you should learn where its air damper is and the signs of the fire's receiving insufficient or excessive air. Best results can be obtained only from expert tuning of the over-fire draft, gph rate or oil rate, and air given the flame by the fan wheel.

* * *

Q. We have a cistern full of rain water from the roof drains. Would it be better for our boiler to feed it this rain water, instead of regular tap water?

R.L., *Bronx, N. Y.*

A. We gather you are talking about an ordinary small heating boiler, and we recommend that you use the regular tap water. As one consideration, if your boiler and heating plant are in good condition, they do not need many gallons of water a year, and the amount of impurities entering the boiler in a small amount of tap water will not damage the boiler greatly. For another thing, if the city water needs treatment to make it fit for the boiler, probably it will be simpler and easier to condition the city water than the water from your cistern. Rain water collected in a cistern is usually not the clean water which some people think it is. Rain drops pick up gases and dirt as they fall. The cistern probably has much dirt in it from the roof, the drains to it, and the deterioration of its own walls. In addition,



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rain water is usually mildly corrosive and has to be treated to make it neutral before it is fit, for example, for power house high pressure boilers.

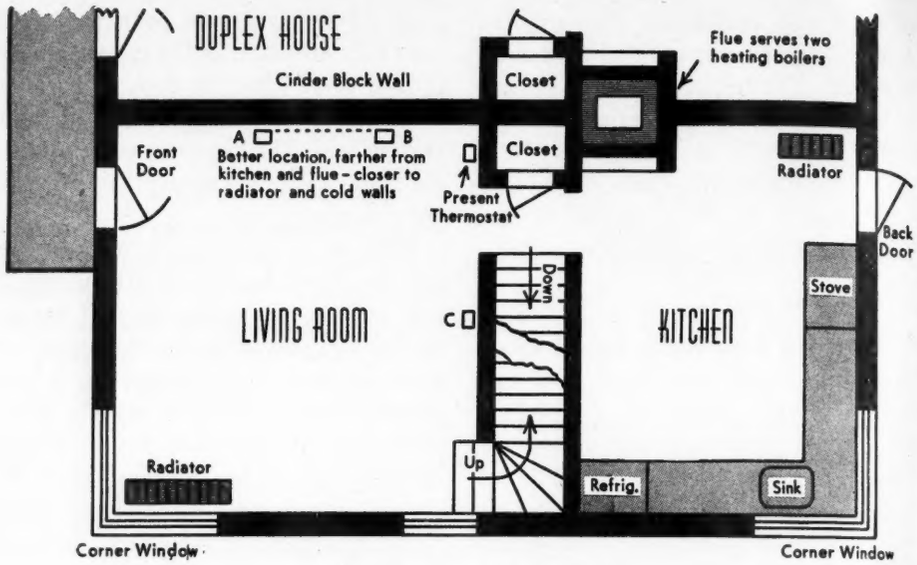
* * *

Q. Your article about avoiding thermostat trouble gives pointers which seem to apply to the house I occupy. Please look over my detailed drawing and tell me if I am right in thinking that comfort will be improved by moving the thermostat away from its present, protected location.

T.H., *New York*

A. You probably are right in thinking that its present location causes the room thermostat to chill too slowly when the radiators become cold. You can check on this by using two ordinary room temperature thermometers to make a "rate of chill" test when the outside temperature is lower than about 35°. First, place the thermometers side-by-side for a few hours and read them to make sure they give identical readings. Then tie one to the thermostat and place the other one on a table in the center of the living room. Arrange to get readings of about 70° to 75° to start out, and make note of the starting temperatures. Now turn off the oilburner for about four hours by opening its main switch. Read the two thermometers. Find out if the thermometer in the living room dropped its temperature much more than the thermometer tied to the thermostat. Now run the oilburner steadily for 90 minutes by turning on the main switch and raising the setting of the room thermostat, then read the two thermometers again.

This test may show that the temperature at the present thermostat location is too steady, compared to the temperature



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STATE TANK CO.
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in the center of the living room. Better thermostat locations would be in the line shown as A-B in the drawing, or at C. On-off recorders and room temperature recorders show that often it works out well to install the thermostat about eight to 15 feet from an outside wall and about the same distance from a radiator. The location marked C is probably not as good as the A-B location because of the stair well. But you may have difficulty concealing the thermostat wire if you use the A-B location. To obtain exceptional results, we have even mounted room thermostats on handsome hardwood bases and kept them on tables, using an attractive flexible cord to connect them to special base receptacles. Your problem is interesting because it shows, once more, the difficulty in selecting the one thermostat location which will serve best in a certain home.

Appraisals Recommended to Control Home Inflation

BUYERS OF HOMES CAN help combat inflation in the real estate market by financing their purchases through FHA-insured mortgage loans, Commissioner Raymond M. Foley of the Federal Housing Administration said February 24.

Explaining FHA's recently adopted policy of charging its minimum $10 fee for conditional insurance commitments on new homes, as well as existing dwellings, Mr. Foley said the impression should not be gained that FHA is entering the appraisal business apart from its mortgage insurance operations. Appraisals are made by FHA as a corollary to examination of applications for home mortgage insurance, he said.

FHA appraisals and valuations are a protection against inflationary trends, Mr. Foley added, since FHA will not recognize prices which have been affected by temporary housing shortages or excessively raised by sellers.

Conditional commitments to insure loans involve submission by a lending institution of an application covering only the property. They are now being made more widely available by extension of the examination fee of a flat $10 to cover proposed new construction, as well as existing construction. If a property is clearly not eligible for mortgage insurance on the face of the application, the field examination or appraisal will not take place and the fee will be refunded. Approved lending institutions frequently can determine eligibility without submitting a formal application to FHA. Buyers are reminded by Mr. Foley that the balance of the full commitment fee is collected when a mortgage loan is later insured. The full fee is $3 per $1,000 of the mortgage face, or a minimum of $10.

Where properties are found eligible for insurance, the finding on the conditional commitment will give both the long term value and the reasonable value figure relating to the GI Bill.

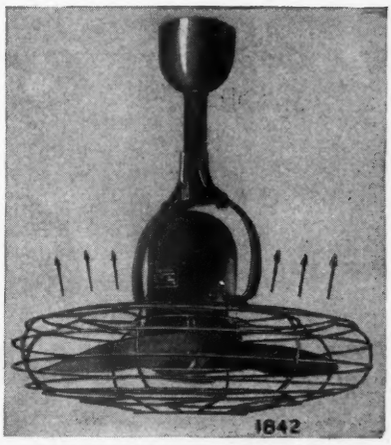
FHA's analysis of eligibility for home mortgage insurance cannot be completed in a matter of hours, Mr. Foley said. FHA conducts an exhaustive study of the property, the neighborhood, the borrower, and all other factors bearing on the soundness of the home financing. To ascertain that the loan is not threatened by excessive risk, FHA examines to see that the home in question is well designed and planned, located in a community of lasting usefulness for residential pur-

Reco HEAT CIRCULATOR FAN
RADI-AIRE

For "Hard-to-Heat" Rooms

Prevents Cold Floors

Provides Uniform Temperature Throughout Rooms



Keeps customers satisfied despite overhead radiators or ducts, exceptional exposure to strong breezes, high ceilings or other "hard-to-heat" rooms. It keeps floors warm.
The RECO blows upwards, the air traveling along the ceiling, and down the walls at slow speed, carrying the hot, moist air with it, causing uniform temperature and humidity in all parts of the room. Prevents wall streaking and air stratification.
The RECO dissipates smoke and odors. No noise. No draft. Made in various sizes and types. Has year-around use as it is exceptionally efficient in hot weather for comfort cooling.

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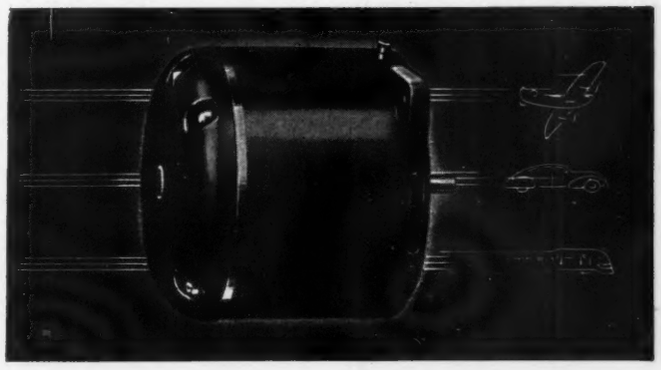

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Types—Split Phase and Capacitor
Speeds—1140, 1725, 3500 RPM
Power—1/20 to ½ HP, depending on speed
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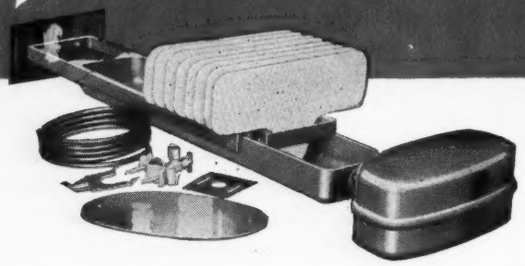
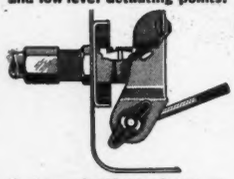
COPPER FLOAT TANK



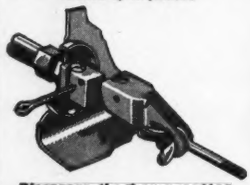
For Dependable Humidification

Positive Action

Throttle type action maintains the proper water level at all times . . . no complicated high and low level actuating points.



For occasional servicing or cleaning the brass wing nut can be loosened and the whole assembly exposed.



Disengage the brass cotter key and the complete float assembly can be removed for inspection or cleaning.

Here is the humidifier you've been waiting for. Simple and easy to install and designed to operate for years with little or no attention.

Exhaustive study and research under actual operating conditions has dictated the need for a simple, easy to clean valve and an acid resisting water supply tank. Viking has the solution.

THE VALVE

Made entirely of brass and located above the water level in the supply tank. Simple rocker action . . . no springs no sliding parts.

THE TANK

Deep drawn from 24 oz. copper in a single piece . . . no seams . . . no welds. Located outside the bonnet or plenum . . . readily accessible for occasional inspection or cleaning.

WRITE TODAY

. . . get complete information and specifications on a dependable humidifier.

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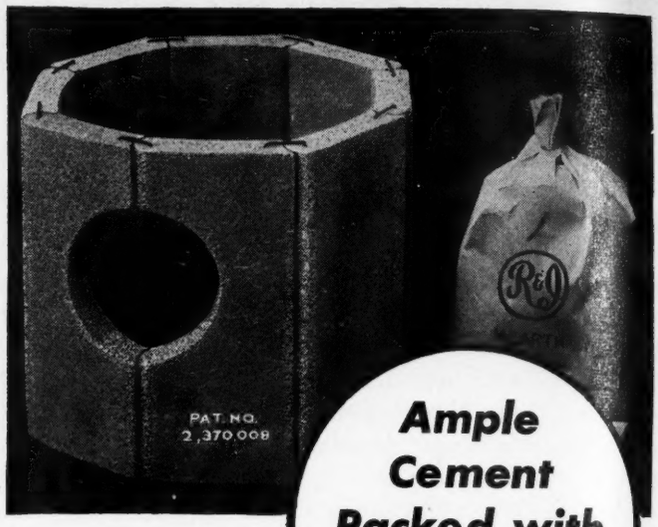

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poses, comparable to properties of similar value. Such matters as architecture, construction standards, and convenience of utilities and other needs are all considered.

"Prudent individuals may sometimes be tempted to discard the customary caution in an effort to complete home-financing transactions as quickly as possible, even though the purchase of a home is usually the largest investment ever undertaken by the average family," he said. "Reasonable study and investigation, such as that offered by FHA, frequently proves it is safer and wiser to wait the time required for a complete analysis and examination of the whole home-buying transaction."

◈

Defer Federal Construction to Favor Home Building

Deferment of Federal construction which would compete with veterans' housing for men and materials has been agreed upon by the Inter-Departmental Committee on Construction, which is composed of Federal Departments and Agencies interested in construction, it was announced Feb. 19 by Wilson W. Wyatt, National Housing Administrator and Housing Expediter.

At the same time, the Committee gave its support to increased construction of community facilities—such as streets, sewers, waterworks and other utilities—which will be necessary to permit the Veterans Emergency Housing Program to move forward with full speed.

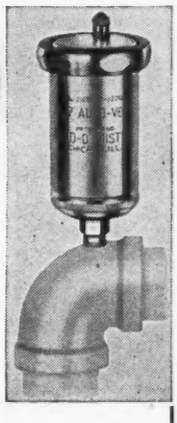
The Committee, headed by Major General Philip B. Fleming, Administrator of Federal Works Agency, assured John W. Snyder, Director of the Office of War Mobilization and Reconversion, and Mr. Wyatt of its "wholehearted cooperation" in the realization of the objectives of the housing program—2,700,000 homes for veterans by the end of 1947. It declared that "the Federal Building program contemplated by the Public Buildings Administration will, if authorized, be 'timed' to the extent necessary" to avoid any conflicts.

The Committee went on record as favoring going forward with highway projects, reclamation projects, river and harbor improvements and flood control projects, "because it is the unanimous judgment of the committee that those types of production make no demand, or only an insignificant demand on the types of materials and labor skills useful in housing construction and will help provide jobs of the kind for which thousands of veterans were trained during the war."

Mr. Wyatt praised the decision of the Committee and added:

"The deferment of a considerable amount of construction will undoubtedly be necessary in the months immediately ahead, if the objectives of the Veterans' Emergency Housing Program are to be met. At the same time, I want to emphasize that there will have to be a great amount of public works in our communities in order for our housing program to succeed.

"Expansion of community facilities is vitally necessary if the houses built under the Veterans' Emergency Housing Program are to be properly equipped for family living and be assets to our communities. The necessary curtailment of such facilities during the war makes action imperative now, since a great share of the sites needed for the present pro-

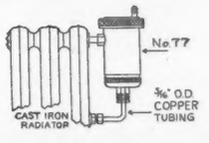


And Keep It Out With

AUTO-VENT AIR ELIMINATORS

Circulation Troubles?

Don't fight air pockets or traps in hot or cold circulating lines! "Get that air out of there" *and keep it out* simply by installing the No. 7 Maid-O'-Mist Automatic Air Vent. This reliable air vent has a self-closing float-controlled valve and is designed especially for circulating pipe lines, convector radiators, unit heaters, cooling manifolds, tanks, diesel engines, or any other application where air pockets or traps retard the free circulation of liquids. For pressures up to 75 lbs. Bright brass finish.



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15% TO 25% OIL SAVING!

Unheard-of Economy

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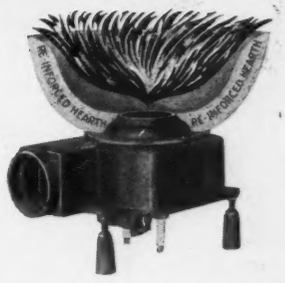
Jackson Convertor Attachment



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Fits any gun-type burner. Easily installed on blast tube. Once adjusted, always adjusted. No moving parts in combustion chamber. No carbon deposit. Reduces service calls tremendously. Extremely quiet in operation—also odorless. Moderate in price. Get the low-down! Write today for circular! Dealers wanted!

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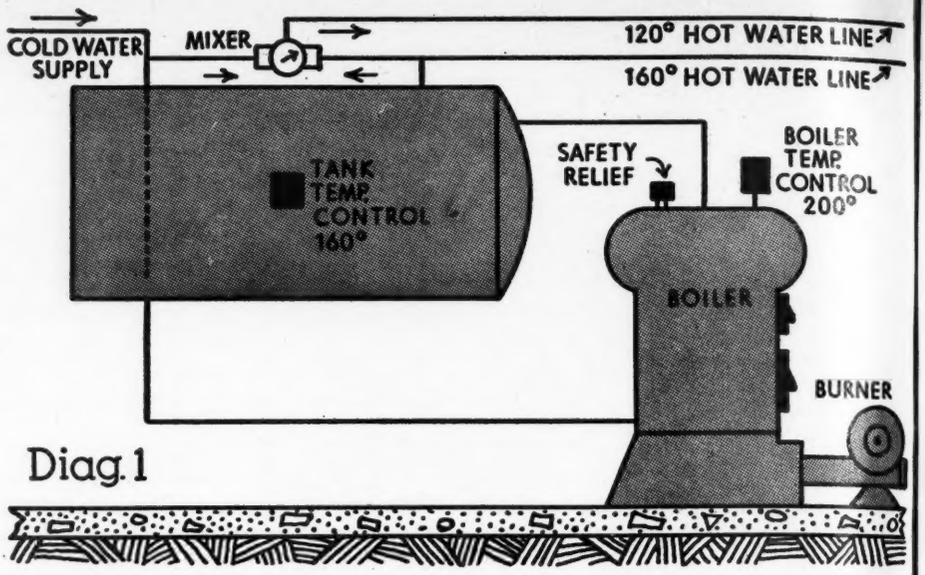
MANUFACTURERS

gram will have to be equipped with all types of utilities and services. Communities and the responsible Federal, state and local agencies should accelerate their planning for the expanded program. Housing is only a part—though the major part—of the job ahead."

The Inter-Departmental Committee on Construction is composed of representatives of the Federal Works Agency, Department of Agriculture, Department of Commerce, Department of the Interior, National Housing Agency, and the War Department.



Diag. 1

Modern Hot Water

SCALDING HOT WATER for washing dishes is nothing short of a necessity for hotels, restaurants, institutions, and similar buildings in which dishes are washed by the hundreds. To pass dishes and glasses from one customer to another without first scalding them is a violation of the health laws in most cities. Without steaming hot water, the dishes and glasses are not freed of germs and washed properly. Often the exacting managers of large homes also demand that the dishes be washed in scalding water whether the washing is done by hand or modern machine.

Oil-powered water heating equipment of the indirect or direct-fired type can easily be arranged to heat a small or large hot water storage tank to about 160°, which works out well for dish washing. But 160° water is too hot for safety and convenience in the wash basins, bath tubs, and showers. Supplying excessively hot water for an entire building in addition increases the cost of heating water and often doubles or trebles the amount of work replacing washers in hot water valves and faucets.

A good answer to the problem lies in providing 160° or hotter water for the lines to the kitchen and perhaps the laun-

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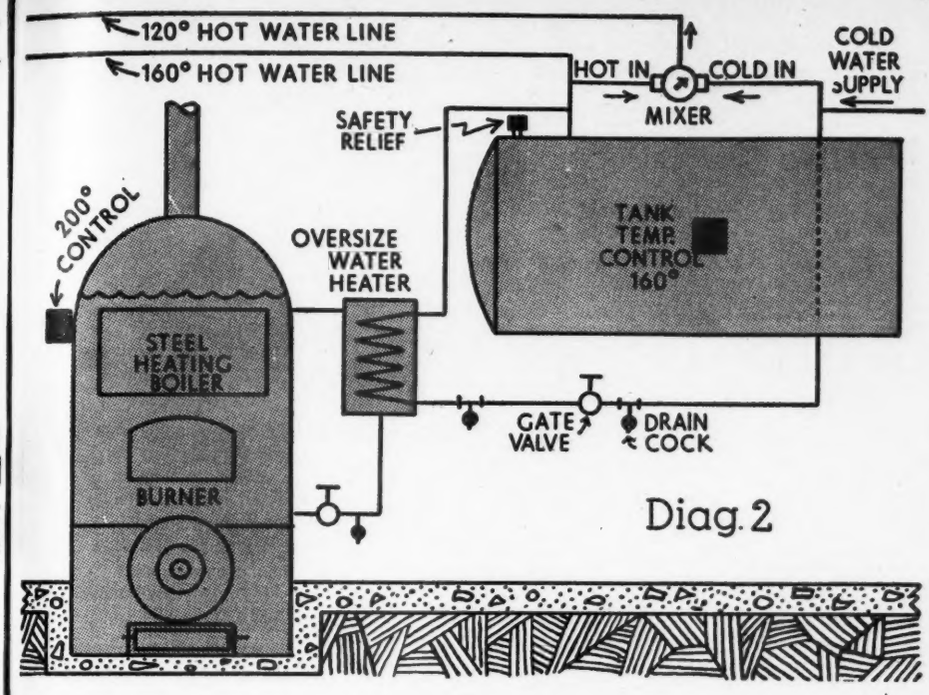


Diag. 2

dry of a large building or pretentious residence, and 120° hot water for all the other hot water lines. Diag. 1 shows how this can be done simply and easily where the water heater is direct-fired. The tank is kept at 160°. A hot water mixing valve or tempering valve supplies the 120° water by mixing hot water from the tank with cold water from the tank supply line.

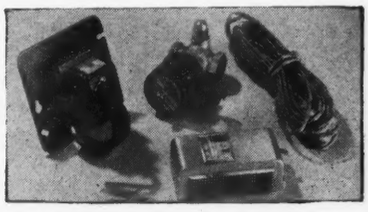
Diag. 2 shows the idea applied to a tank connected to an indirect water heater which is oversize according to the standards usually observed. When the heating boiler carries heavy loads, the tank temperature will exceed 160°. Usually this gives no trouble, but where it does additional automatic equipment can be installed to regulate closely the temperature of the very hot water supplied to the kitchen.

These are not working drawings and should not be followed in installing different makes of mixers or tempering valves. Exact technical instructions on hot water temperature control equipment should be obtained before an installation is planned from a manufacturer of this type equipment.

Production From Canadian Tar Sands Uneconomic

RESULTS of commercial tests on the production of petroleum products from the tar sands of northern Alberta indicate that such production is feasible but too high in cost to justify commercial development, according to a report by Minister of Mines and Resources James A. Glen. Products delivered in Edmonton, nearest metropolitan market, 300 miles

GENERAL CONTROLS
OIL HEATING PACKAGE SET



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Dependable and economical T-23 Packaged Controls are easy and quick to install on new and old installations.

Complete Set Includes

Silent A.C. Type K-20-3 Oil Valve with by-pass adjustment for minimum flow regulation or pilot; T-70 Two-wire Metrotherm Thermostat; General T-O Transformer and 30 feet of wire. Everything necessary for immediate installation.

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south of the plant, would be valued at $4.29 a barrel without tax, of which $2.51 is the cost of extraction and refining, and $1.78 the cost of transportation by rail.

Product yield reported by thermal cracking is reported to be 7% gasoline; 6% heavy kerosene; 10% diesel oil; 19.7% fueloil and 56.3% asphalt. The gasoline has a 2% sulphur content that would have to be removed by further treatment, and the fueloil is a heavy product suitable only for commercial and industrial use. The 6% of kerosene probably would be suitable for burning in domestic heating plants, and the yield compares favorably with present U. S. refinery yield.

The cost of removing oil from the sand ready for refining is stated at $1.60 a barrel, based on the assumption that a ton of overburden would have to be removed for each ton of sand treated.

◈

Associated Contractors Promise to Push Residences

COOPERATION IN WORKING toward the objective in the Veterans' Emergency Housing program of starting 2,700,000 new homes by the end of next year, while the construction industry at the same time fulfills the other construction needs of the nation, was pledged to the President of the United States by The Associated General Contractors of America.

This cooperation was pledged in a letter by H. A. Dick, Portland, Oregon, president of the Association. The text of Mr. Dick's letter follows:

February 12, 1946

The President
The White House
Washington, D. C.

Sir:

The Associated General Contractors of America offers to you its cooperation in working toward the objectives in the Veterans' Emergency Housing Program of starting 2,700,000 new homes by the end of next year, while the construction industry at the same time fulfills the other construction needs of the nation.

A serious housing shortage has developed in the country. The program developed by Mr. Wilson W. Wyatt, your Housing Expediter and Administrator of the National Housing Agency, has outlined a series of bold steps which project the federal government into the solution of a peacetime problem to practically the same extent that the government directed our national energies for wartime purposes. This association hopes that it is your intent, and his, to relax government regulations and restrictions as quickly as you think that becomes possible.

Because practically every form of progress of this nation requires some form of construction, this association on behalf of its members offers its assistance to the government in the difficult phase of administration so that the nation is not in the position of having all of its construction eggs in the housing basket, to the serious detriment of other essential purposes.

The Veterans' Emergency Housing Program contemplates the postponement of all deferrable and non-essential construction for the balance of 1946 to release needed materials and labor for housing and other essential purposes. In this connection, members of our Governing

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Boiler Water Conditioner
- Keeps Boiler Water Surfaces Clean
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BALLOFFET DIES AND NOZZLE CO., INC.
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and Advisory Boards last November recommended that so long as labor and materials are scarce, contractors in their respective communities use their knowledge of construction to counsel with local groups to seek the start of new projects in order of their need so that those projects most urgently needed in the community could be undertaken first.

As you know, the construction of houses requires the building of streets, sidewalks and connections with utilities. Where communities are expanded, they need additional schools, hospitals, post offices, stores, gasoline stations, recreational facilities, and often enlarged sewer and water systems.

Also, throughout the country highway improvements are needed to remove dangerous traffic hazards, and all transportation facilities need improvement for better interchange of goods. During the war years, practically all work was halted or postponed on projects for the development of water resources for irrigation, power, navigation and flood control purposes.

Necessary as it is that a veteran have a place to live, it is also necessary that he have a place to work. Industrial and commercial construction, as well as the development of resources, provide facilities for increased job opportunities. If a high level of production and employment is to be attained in the future, opportunities for jobs must be increased substantially above prewar levels.

In order that the construction industry might most quickly mobilize to undertake the construction of new homes, it would be helpful if Mr. Wyatt could provide immediately information on the localities in which the housing is needed.

For the considerations discussed here and many others, the administration of a program which seeks to direct the nation's construction effort primarily toward one goal is complex and difficult. The construction industry has the duty to try to fulfill all of the nation's construction needs. For these reasons the association offers to the government its knowledge of the construction industry and its problems for assistance in the program of providing housing for veterans.

/s/ H. A. DICK, *President.*

Dodge Estimates "Construction Revival"

A STUDY OF THE IMMEDIATE problems of the construction industry has been made by F. W. Dodge Corp., New York, and published in a booklet entitled "Construction Revival." In a thorough analysis of 99,638 projects now in design or primary stages, the company shows the amount of construction planned in the various classes of building, and whether it is to be financed by public or private funds.

Plans for the construction of one- and two-family houses are estimated to reach a total of $2,000,000 annually for the next ten years. This compares with an $1,155,000,000 spent for this type of building in 1940, and $932,000,000 in 1939.

One- and two-family construction now in the design stage now totals $446,000,000, of which $422,000,000 is to be privately financed.

Hotels, domitories and apartment building construction is believed to average $1,000,000,000 per year for the next decade, and there now are projects in the design stage for $659,000,000 of this type of construction.

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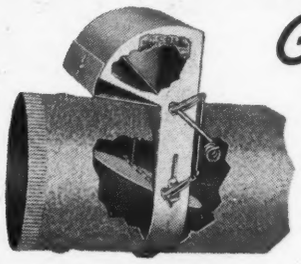
Models for Every Type and Size of Installation.

LOWER FUEL COSTS FOR YOUR CUSTOMERS
MAKES MORE PROFITABLE SALES FOR YOU



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Editorial Leaks

(*Continued from page 8*)

is serious. At the year-end railroads had 347 locomotives on order . . . 80 steam, 267 diesels.

Bituminous Coal Research, Inc., formed in Washington in 1933, with the backing of the National Coal Assn., insists that research is the only answer to the industry's problems . . . that coal must not only emulate the research programs of oil and gas, but must make coal outperform its competition. Principal BCR projects call for virtual elimination of smoke, more efficient burning methods to offset rising coal prices (up 25% since 1939) and making coal more convenient to use.

Experiments are being conducted in the introduction of air jets over the flame, said to almost eliminate smoke by improving combustion. Some 700 locomotives have been equipped with these air jets out of a total of 39,000 coal powered locomotives. Results are reported good.

A smokeless coal stove is under development; 17 stove manufacturers expect to have these ready to market by fall; stoves will have magazines that feed automatically up to 24 hours without refilling. A clinkerless stoker that will handle larger coal sizes is a goal.

◈

Sees Building Peak In 1949, Or Later

ALTHOUGH THERE is a great pent-up demand for new construction as a result of curtailment of many types of civilian building during the war, the peak in building activity probably will not be reached until 1949 or perhaps a little later, the Producers' Council has been told by Charles E. Young, economist for Westinghouse Electric Corp. Mr. Young, who is a member of the Council's Market Analysis Committee, believes that builders and contractors will require many months to rebuild their organizations to meet peak demands, and that a large part of future construction, both private and public, has not yet reached the planning stage.

"Our committee has forecast a record-breaking volume of building during the three-year period 1949-1951, if price levels do not rise unduly, and if general economic conditions follow the anticipated pattern. Construction expenditures for that period should average $15 billion per year, Mr. Young has reported. The committee sees new construction of all types reaching about $7.4 billion in the next year, an increase of 60% over the 1945 total. Of this they expect $5.2 billion will be privately financed.

◈

E. A. Price has been appointed manager of the Dallas office of Penn Electric Switch Co., Goshen, Indiana. Price was sales engineer for Penn at the head office from 1937 until 1941, when he received a Navy commission, eventually reaching the rank of Lt. Commander after long Pacific service.

NOZZLE DELIVERIES ? ? ?

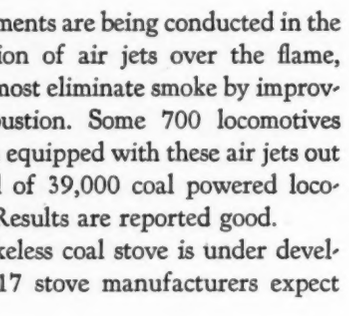

Fig. F-80

Sorry, but prompt deliveries can only be offered on orders for just one or two nozzles for emergency needs. During the War few civilian requirements could be filled but demand has continued so great that we still have a large unfilled order backlog.

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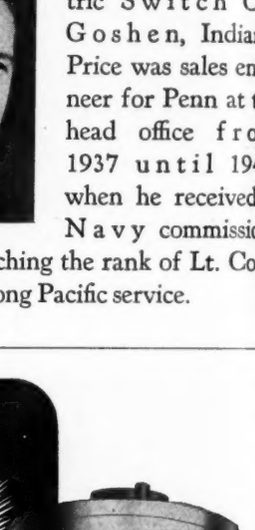

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Washington Issues Help For Motor Manufacturers

PRIORITY HELP for fractional horsepower electric motor manufacturers was announced February 19 by the Civilian Production Administration. The help, in the form of a "CC" priority rating, also has been extended to producers of electrical steel sheets and other components.

The full text of the announcement follows:

"In order to speed the production of fractional horsepower AC electric motors urgently needed for housing needs and many other consumer-type goods, the Civilian Production Administration has extended priorities assistance to such electric motor manufacturers for production materials and capital equipment. At the same time, OPA granted priorities assistance to the producers of electrical steel sheets, a vital component of electric motors.

"The 'CC' priority ratings may now be assigned to manufacturers of fractional horsepower alternating current electric motors to obtain all types of needed capital equipment plus construction materials (except electric high silicon steel sheets). Manufacturers of the latter product may obtain priority assistance for capital equipment and construction materials for new plants or expansion of existing plants. This assignment of ratings was established through issuance of Directions 11 and 12 respectively to Priorities Regulation 28.

"Fractional horsepower motors are in critically short supply for urgently needed housing construction products such as stokers, warm air furnaces, oil burners as well as refrigerators, fans, etc. The current backlog of orders is more than 21 months' estimated production.

Month (1945)	Shipments (Units)	Unfilled Orders (Units)	Backlog in Months
Dec.	1,079,134	23,395,708	21
Nov.	1,058,715	21,186,623	20
Oct.	888,904	18,888,473	21
Sept.	686,712	16,306,070	23.7
Aug.	703,698	11,399,153	16.2
July	681,991	9,906,539	14.5

"CPA officials stated, however, that they believed there was considerable 'water' in this order backlog inasmuch as many manufacturers have undoubtedly placed duplicate orders with several producers.

"January production of fractional horsepower electric motors will be braked by the electrical strike which started January 15th in the plants of the four largest producers, CPA said. Accordingly, CPA estimated that January shipments would drop to approximately two-thirds of the 1,079,134 units shipped in December.

"While two of the four strike bound companies are reported to have settled their labor problems in February, the production rate cannot climb back to the December rate for several weeks, CPA explained. Because of restricted steel shipments due to the steel strike and lack of other materials, February production is not expected to total more than 50 percent of December.

"In further explaining the current priorities assistance granted to the electric motor and silicon sheet steel manufacturers, CPA emphasized that assistance will be limited on both products to conditions which will result in a substantial increase in production or where such priorities are required to replace present equipment in danger of an imminent breakdown.

"The 'CC' rating will be denied, however, when it appears that the item required is available, but under different terms of sale or from a supplier other than

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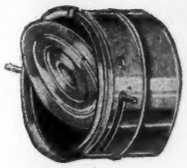

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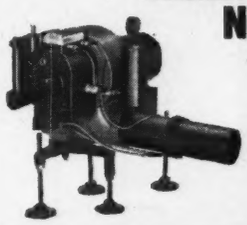

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"In instances other than the above, both electric motor and high silicon electric sheet manufacturers are bound by the regular provisions of Priorities Regulation 28, which generally restricts priority assistance to bottleneck items."

◈

FHA Home Applications

THE FEDERAL HOUSING Administration reports an expanding volume of applications for its home mortgage insurance in figures released February 17.

Applications received during January by FHA offices totaled 14,513, it was announced by Commissioner Raymond M. Foley. This was a gain of 38 per cent over December and was the largest monthly total since the end of the war in August.

Of the aggregate, 5,490 applications covered new small homes to be built in the near future. This represented an increase of more than 50 per cent over December. In addition, there were two applications covering rental housing projects, consisting of 363 dwelling units, to be constructed with private capital.

"Although our new home mortgage applications are still far below a normal pre-war month," Mr. Foley said, "the rising figures suggest that recovery in the residential building field has started. Preferences for veterans and additional spurs to the construction industry should mean a sizeable expansion this year."

Applications for mortgage insurance covering existing dwellings totaled 9,021 in January, the highest since 1938 and one of the largest figures in the FHA's experience. An exceptional amount of applications for refinancing outstanding mortgages or for accomplishing the purchase of existing homes has been coming into FHA offices for several months.

"FHA insurance of mortgages on existing homes is in unusual demand," Mr. Foley said. "Both borrowers and lending institutions are seeking the protection of FHA in the face of unsettled trends in the real estate picture."

◈

William E. Curran has been elected a director of the Rheem Mfg. Co. He has been vice-president in charge of manufacturing since 1933.

Ray O. Comp, recently a Major in the Fuels and Lubricants Div. of the Office of the Quartermaster General, has joined Buckeye Iron & Brass Works, Dayton, Ohio, as eastern representative with headquarters in New York. *George R. Bardsley,* who served as special representative in Washington during the war and later as eastern representative, will return to his former territory in Dallas.

Stewart E. Lauer, president of the York Corp., York, Pa., has completed 30 years as a member of the American Society of Refrigerating Engineers, and has thus become a life member of the Society.

I. J. Fairchild, chief of the Trade Standards Division, National Bureau of Standards, Washington, has retired after 30 years of Government service, 23 of which were spent at the Bureau. To oilheating and fueloil men he has been the best known individual in the Bureau, for under his aegis were adopted both the present oilburner standards and the fueloil standards. *F. W. Reynolds,* who has been chief of the Chemical and Miscellaneous Products Section and assistant chief of the Division, has been designated acting chief.

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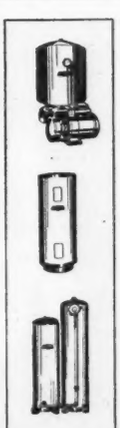

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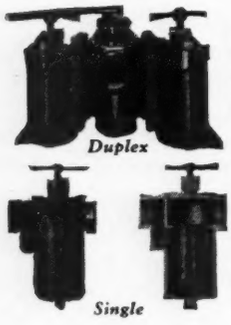

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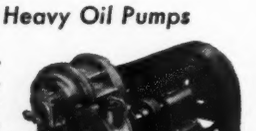

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Producers Hit Plan To Subsidize Materials

THE WYATT PROPOSAL for subsidizing manufacturers of building materials will encourage inefficiency by removing all incentive to reduce production costs with the result that the $600 million subsidy fund would be largely wasted, Douglas Whitlock, chairman of the Advisory Board of the Producers' Council, national organization of building product manufacturers, stated February 24, in a letter to Chairman Brent Spence of the House Banking and Currency Committee.

"The only way to insure the necessary increase in the output of scarce materials and equipment needed for home building is to make adjustments in price ceilings in the case of producers who have been forced to shut down or operate at a loss under present ceiling prices," Whitlock's letter said.

"Under the premium-payment subsidy plan, the manufacturer would be faced with the fact that every increase in efficiency would be accompanied by the risk of having the subsidy reduced or removed, thus giving him no reason to strive for lower costs.

"Subsidies unquestionably would bring a smaller increase in production than would result if ceiling prices were raised on products and grades of products which now must be produced at a loss.

"Thus, the payment of subsidies would definitely tend to delay the day when increased production and resulting lower production costs would restore competitive conditions which would bring about a lowering of prices of building products.

"While the purpose of offering subsidies is to offer incentives to manufacturers without raising the cost of homes built for veterans, the necessary adjustments in ceiling prices quickly would result in a reduction in costs.

"The effect of many present ceilings is to prevent the production of low-priced lines and to encourage increased production of high-priced lines. The higher priced lines traditionally have carried a higher rate of profit because these products normally are produced in smaller quantities.

"Thus, at the present time, builders are compelled to use these higher priced products, and some are resorting to the black market when they can not get the materials they need any other way.

"By increasing ceiling prices on the low-priced products which are scarce today, the production of those items would be increased to the point where there would be no need to buy in black markets and to the point where builders would not be obliged to buy the high priced lines.

"In addition, increasing production of low-priced, standard products would insure a more steady flow to builders, thus preventing the costly delays which result from inability to obtain materials on time. All of these factors combined promise to reduce the cost of building homes and thus would decrease the prices veterans have to pay for homes. Subsidies would not bring about comparable savings."

◈

L. A. (Lennie) Schultz, well-known wholesale oilburner salesman in the New York area, has returned from military service and accepted the position of general manager of Eastern Products Co., Fords, N. J., manufacturer of Korexo fueloil treatment, soot remover, boiler water treatment, and other chemical products. Mr. Schultz also formerly was a retail oilburner dealer.

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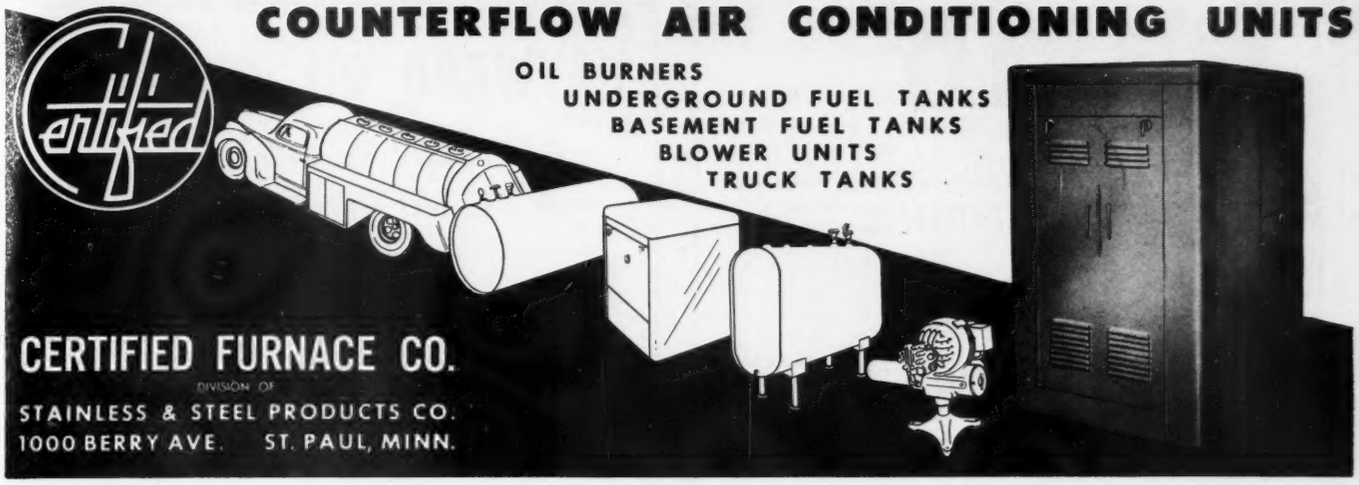
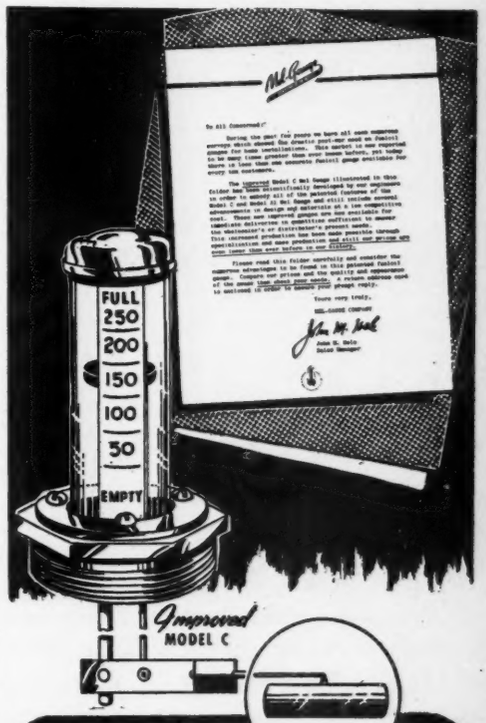


DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	January		*Percent*		*(Sept. 1 to Jan. 31)*			*Percent*
Normal	*1945*	*1946*	*Change**		*Normal*	*1945*	*1946*	*Change**
1267	1584	1265	— 0.2	Albany	3688	4286	3991	+ 8.2
662	675	634	— 4.2	Atlanta	1837	1972	1950	+ 6.2
922	1112	856	— 7.1	Baltimore	2569	2836	2525	— 1.7
1101	1280	1133	+ 2.9	Boston	3188	3452	3289	+ 3.2
1220	1514	1166	— 4.4	Buffalo	3604	4023	3765	+ 4.5
1219	1415	1187	— 2.6	Chicago	3454	3871	3830	+10.9
1009	1204	975	— 3.4	Cincinnati	2901	3257	2999	+ 3.4
1141	1430	1109	— 2.8	Cleveland	3315	3781	3480	+ 5.0
596	605	605	+ 1.5	Dallas	1540	1542	1572	+ 2.1
1026	1031	1041	+ 1.5	Denver	3298	3113	3344	+ 1.4
1326	1395	1299	— 2.0	Des Moines	3750	3791	4057	+ 8.2
1228	1465	1141	— 7.1	Detroit	3597	3870	3632	+ 1.0
1249	1448	1175	— 5.9	Grand Rapids	3705	3878	3757	+ 1.4
1146	1390	1196	+ 4.4	Hartford	3363	3834	3653	+ 8.6
1337	1194	1134	—15.2	Helena	4411	4520	4350	— 1.4
356	358	401	+12.7	Houston	876	893	905	+ 3.3
1104	1255	1120	+ 1.4	Indianapolis	3157	3384	3469	+ 9.9
1083	1061	995	— 8.1	Kansas City	2960	2927	3092	+ 4.5
276	259	224	—18.8	Los Angeles	659	644	637	— 3.3
931	1070	899	— 3.4	Louisville	2608	2875	2693	+ 3.3
1329	1476	1307	— 1.7	Milwaukee	3844	4134	4192	+ 9.1
1597	1621	1544	— 3.3	Minneapolis	4602	4416	4876	+ 6.0
319	363	353	+10.7	New Orleans	794	848	891	+12.2
1025	1228	963	— 6.0	New York	2884	3127	2859	— 0.9
1287	1243	1191	— 7.5	Omaha	3597	3590	3793	+ 5.4
957	1247	969	+ 1.3	Philadelphia	2654	3075	3043	+14.7
1043	1340	1016	— 2.6	Pittsburgh	3071	3638	3301	+ 7.5
1296	1516	1401	+ 8.1	Portland, Me.	3898	4333	4319	+10.8
775	699	749	— 3.4	Portland, Ore.	2451	2219	2331	— 4.9
1103	1255	1123	+ 1.8	Providence	3260	3338	3403	+ 4.4
999	1155	971	— 2.8	St. Louis.	2728	3059	3046	+11.7
1084	1022	1182	+ 8.3	Salt Lake City	3308	3155	3565	+ 7.8
464	520	513	+ 9.6	San Francisco	1394	1582	1545	+10.8
1573	1793	1521	— 3.3	Sault Ste. Marie	4806	5065	5015	+ 4.3
765	685	713	— 6.8	Seattle	2577	2238	2618	+ 1.6
1185	1496	1151	— 2.9	Toledo	3463	4053	3709	+ 7.1
929	1062	863	— 6.1	Washington	2654	2839	2593	— 2.2

*Compared with normal.



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Nip and Tuck

(*Continued from page 46*)

average yield about one percentage point, but it had no appreciable effect on the falling stocks. Kerosene stocks had shrunk from 12,724,000 barrels on September 1 to 7,598,000 barrels on February 9, and barring some unseasonably warm weather, probably will continue to decline for another four or five weeks.

Average kerosene demand for the five weeks ending in September was 1,093,000 barrels a week while production averaged 1,458,000 barrels, or 133.4% of the demand. Average demand in the four weeks ending in January was 2,396,000 barrels per week, but production had increased seasonally to only 2,031,000 barrels weekly, or 84.8% of demand. This is the reason kerosene stocks have declined every week since the middle of October. Kerosene stocks now represent less than three weeks' supply at the present rate of demand.

The higher ceilings on gas oil and distillate have pulled up the yield of these oils two percentage points over the September average, but production generally is running behind demand. Stocks have fallen from 29,785,000 barrels on September 1 to 21,393,000 barrels on February 9, in the three districts, and it seem doubtful of the little more than 4.7 million barrels produced each week since the last price increase will fully supply the demand at this time of year. Gas oil and distillate stocks at present are equal to only four weeks' demand.

Average distillate demand in the three districts was 3,166,000 barrels per week in the five weeks ending in September, while production stock at an average of 4,014,00 barrels a week, or 126.8% of demand. In the four weeks ending in January the average weekly demand had nearly doubled to 6,084,000 barrels, but production in the same period had increased less than 15% to an average of 4,608,000 barrels a week, or only 75.7% of the weekly demand.

Residual oils, for which there has been no change in ceiling price, have changed only seasonally. Yield is about 22% of the average runs to stills. Though stocks have been reduced about 20% since the first of September to 17,000,000 barrels on February 9, production is not running too far below demand at this time.

The accompanying charts show the weekly change in the production of gasoline, kerosene, gas oil and distillate, and residual fueloil in Districts 1, 2 and 3 since the last week in August, and also the stocks of these products held at the end of each week in the three districts. The production chart shows the percentage of each week's runs to stills which each product represented, rather than the barrels of product produced. The stocks chart gives the barrels of product held. Figures on production, per cent of yield, stocks held at the end of each week and the weekly demand are given in the table.

There is speculation in many quarters over the possible future implications of this picture. If higher prices at the refineries are needed to make possible adequate production of kerosene and distillate heating oils, and lower retail prices are needed to make these products attractive as heating fuels, some independents are becoming disturbed by the faint hand-

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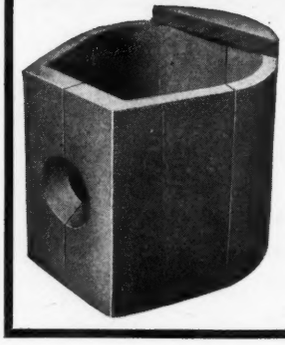
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writing on the wall. Distributors in many areas already are having trouble showing an adequate profit on their present margins, and complain of the encroachment of major oil companies into the retail market. Others, less disturbed, claim that no major can afford to cover the market sufficiently well, and therefore there can be no real threat. It is pointed out by the other side that this does not answer the basic problem of higher cost and lower prices, and economies in distribution will be hard to make.

Another group sees an answer in the increased production of automobiles and trucks. The growing gasoline demand, they feel, will prevent piling up stocks and encourage larger runs to stills with larger production of kerosene and heating oils. This group, probably the largest in number, believes this winter of 1945-46 will be the toughest one for years to come.

◈

Smoke Prevention Drives Increase in Several Cities

CHICAGO IN LATE JANUARY took its second major step of 1946 to rid itself of smoke and soot. The City Council, without a dissenting vote, adopted an amendment to the existing smoke ordinance prohibiting at all times smoke of a density greater than 60 per cent.

Previously, so-called No. 4 and No. 5 smoke types which engineers say contain much of the soot, fly-ash, tars and other objectionable by-products that fall upon the city have been permitted for periods not exceeding six minutes when fireboxes were being cleaned, or new fires built.

Other Cities Fight Smoke

The city council of Baltimore, Md., has drawn up a new ordinance for smoke control. The committee to whom this task was delegated chose as its basis the St. Louis ordinance which has received much publicity. K. P. MacMillan, representing the Maryland Coal Assn., attended the public hearings on the proposed bill and pointed out to the committee the differences in the chemical analysis of the coal generally used in the Baltimore area and that which St. Louis burns.

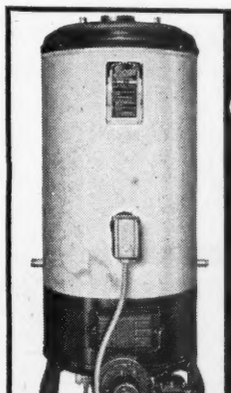
As a result, passage of the new law was deferred so that the railroads, the industrialists, the coal association and the Association of Commerce could get together with the Baltimore smoke control engineer and work out the necessary changes.

Toronto, Canada, through its Mayor Saunders has decided it is time to do something about the smoke nuisance. A new ordinance to this end has been presented to the civic property committee. It is a lengthy document, designed to cover all kinds of smoke producers from steam shovels to power plants. The budget will include money enough to pay a staff of trained men and equip them with modern instruments.

City officials of Columbus, Ohio, held a preliminary meeting in late January to lay plans for an effective smoke abatement program in 1946.

Starts Enforcement

Pittsburgh is contemplating rigid enforcement of its smoke ordinance, temporarily suspended during the war, with "cracking down" to start in March. Railroads serving the city have agreed to reduce smoke emissions this year.



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